THE DEPARTMENT
OF
NATIONAL PLANNING

THE
SHORT-TERM IMPLEMENTATION PROGRAMME

1962

PRINTED AT THE GOVERNMENT PRESS, CEYLON

TO BE PURCHASED AT THE GOVERNMENT PUBLICATIONS BUREAU,
P. O. BOX 500, SECRETARIAT, COLOMBO

338.984(548.7)
A65

Govt 27/8

Ceylon

THE DEPARTMENT
OF
NATIONAL PLANNING

THE
SHORT-TERM IMPLEMENTATION
PROGRAMME

1962

338.984(548.7)
A65

R 9322—3.509 (6/63)

10 SEP 1963

628503

CABINET COMMITTEE ON PLANNING

Chairman : SENATOR THE HON. SIRIMAVO BANDARANAIKE,
Prime Minister.

Members : HON. FELIX R. DIAS BANDARANAIKE, M.P.,
Minister of Finance.
HON. C. P. DE SILVA, M.P.,
Minister of Agriculture, Lands, Irrigation and Power.
HON. M. SENANAYAKE, M.P.,
Minister of Industries, Home and Cultural Affairs.
HON. P. B. G. KALUGALLA, M.P.,
Minister of Transport and Works.
HON. M. P. DE Z. SIRIWARDENA, M.P.,
Minister of Labour and Nationalised Services.

Secretary : P. H. SIRIWARDENE,
Director of National Planning.

DEPARTMENT OF NATIONAL PLANNING

Staff

Director : P. H. SIRIWARDENE.

Heads of Divisions : L. C. ARULPRAGASAM, C.C.S.,
(Agriculture, Forestry and Fisheries).
E. L. P. JAYATILAKA,
Senior Research Officer (Social Services).
C. SURIYAKUMARAN,
Senior Research Officer (Industry, Power, Transport and Construction).

Special Officers : W. DON MICHAEL,
W. RASAPUTRAM,
M. R. P. SALGADO,
C. DIAS,
S. M. DE SILVA.

Research Officers : F. D. C. WIJESINGHE,
V. KANESALINGAM,
M. ALDONS,
V. AMBALAVANAR,
A. P. A. FERNANDO,
R. MAHALINGASIVAM,
J. G. G. MOTHA,
MRS. S. KURUPPU,
S. SELVARATNAM,
D. C. DOLAWATTE.

United Nations and F.A.O. Consultants : R. J. P. VAN GLINSTRA BLEEKER,
D. GHOSH,
P. C. BANSIL.

CONTENTS

PAGE

FOREWORD

Part One—INTRODUCTION

Chapter 1 Introduction 5
I. Theme 5
II. Application 19
III. Method 26

Part Two—BACKGROUND AND ANALYSIS OF THE PROGRAMME

Chapter 2 Need for the Programme 35
„ 3 The General Features of the Programme 38
„ 4 The Pattern of Development 48
„ 5 Foreign Aid 70
„ 6 Rural Development 82
„ 7 Employment Aspects of the Programme 85
„ 8 National Income and Wage Policy 89

Part Three—PROGRAMME

Section I—Agriculture, Forestry and Fisheries

Chapter 9 General 99
„ 10 Export Crops 102
„ 11 Irrigation and Land Development 118
„ 12 Non-Export Agriculture 142
(i) Institutional Factors 142
(ii) Crops 152
(iii) Animal Husbandry 185
„ 13 Forestry 193
„ 14 Fisheries 199

Section II—Industry, Power, Transport and Construction

Chapter 15 General 213
„ 16 Industry—Public Sector 218
„ 17 Industry—Private Sector 252
„ 18 Small Scale and Cottage Industries 258
„ 19 Power 264
„ 20 Transport 269
„ 21 Construction 289
„ 22 Tourism 299

Section III—Social Services

Chapter 23 Education 303
„ 24 Health 310
„ 25 Housing 316

Part Four—SUMMARY OF RECOMMENDATIONS

I. General 321
II. Agriculture 328
III. Industry Power, Transport and Construction 339

Appendix 343

FOREWORD

THE Short Term Implementation Programme, prepared by the Department of National Planning on my instructions, contains a review of the national economy and explains the nature, scope and magnitude of the development task that has to be accomplished if we are to secure conditions of rapid growth in a period of expanding population. The Programme also examines past policies critically, lays bare the weaknesses, where they exist, and expounds the measures required to strengthen the economy and prepare the way for a better future.

The prospect before us is far from rosy though certainly not one for defeatism. With a resolute faith and sustained effort, we can still outflank the forces pressing against us and reach our economic goals. But we shall have to traverse a hard terrain first. We must be prepared to place ourselves, if need be, on a war footing and accept resolutely the austerities and hard work which that effort demands. Indeed, if we could submit ourselves to a regimen of the gravest hardships and privations in two imperialistic wars for the protection of non-national interests, why should we not put up with less heavy sacrifices and restraints for a shorter period in an all-out effort to build peace and prosperity for ourselves in our own country.

What we are now launching is a struggle for our very survival as a free community. Let us all take this as an unique opportunity of service to our motherland, and let us all remember that whatever be the tasks assigned to us, whatever be our capacity to contribute, it would be a crime if we fail to give of our best in the service to which we are now called. There will no doubt be successes and failures in the course of our effort. Wherever we succeed let us take it in all humility as a step forward towards a better future. Wherever we fail, let us not rest until we know the reason or reasons why and strive to do better year after year until our task is accomplished.

Ever since I assumed office and began to move more actively and purposefully among our peasantry and the mighty works of piety and public utility left over to us from the heroic age of this country, I have become firmly convinced that the forces which made for the grandeur of the past and which form the pledge of our future greatness are lying dormant in our living present awaiting the opportunity to rekindle them into national service. This is a challenge to initiative and leadership, irrespective of political alignments and sectional differences.

It is therefore my earnest hope that the whole nation will respond with an upsurge of enthusiasm for the developmental effort and that the theme of this Programme will become a live and conscious force in the daily life of our people radiating, energising and orientating all their activities for the economic development and the social and cultural uplift of our cherished homeland.

Sirima R. D. Bandaranaike

Prime Minister.

THIS document presents the first comprehensive programme of action and implementation for the building up of a better future for the people. It indicates not only objectives and targets but also concrete ways and means by which the Government proposes to achieve them. These ends and means are not, however, conceived merely in terms of maximising prosperity, since greater prosperity requires not only the adoption of new techniques, the learning of new skills, greater increment in capital formation etc., but also sacrifices in the form of increased savings and numerous changes in attitudes, values, policies and institutions.

In the present Programme, the Government has taken good care not to concentrate on increasing prosperity regardless of cost but to strike a proper mean between material prosperity and human welfare and to evolve a programme of balanced development in reshaping our society and our way of life. In the result, the present Programme does not represent uncritical borrowing from other countries, whether it be of objectives, techniques, policies or institutions. In every case, the Government has sought to adopt solutions best suited to our own culture and needs. Thus, the Programme provides for the strengthening, along democratic lines and through carefully selected ways and means, of a socialist economy most suitable for the country. It embodies those new elements which are best suited or adopted to our needs but preserves, at the same time, the best characteristics of our diversified culture. The Programme objectives as well as the ways and means are such as to provide for a truly national approach towards prosperity and well-being.

The collection of material and its formulation in the original Draft Short-term Implementation Programme had to be carried out in conditions of the utmost haste and urgency in order to enable its presentation to Parliament along with the Budget for 1962-63. The Draft Short-term Programme contained only investment targets. It was not possible to include production targets nor could they be obtained expeditiously soon after. They had to be worked out carefully by the agencies responsible for carrying out the projects. These data have since been obtained and included in the programme.

The chapters under the Industry Sector cover a wide range of subjects, viz., Industry (Public Sector, Private Sector, Small-scale and Cottage); Power, Transport, Construction and Tourism. In view of this extensive coverage, these chapters are now prefaced by an introductory review serving as a conspectus of the material in the chapters which follow it. The opportunity has also been availed of to re-arrange and amalgamate certain chapters within the framework of the original presentation.

PART ONE

INTRODUCTION

CHAPTER 1

INTRODUCTION

I. THEME

The key to prosperity : A parallel

The road towards prosperity of a country is, in principle, a very simple one. It is similar to that, for instance, of a farmer who wants to improve his lot. The farmer's aim is to get as rich a harvest as possible from his field. He, therefore, prepares it carefully, sows it with good seed, waters, manures, and weeds it diligently and harvests and gathers the crop in right time. Within limits the better the seed he uses and the more he spends on fertiliser, improved implements and farming operations, the harder he works and the more intelligently he uses his resources, the larger will be the crop that he will reap and the income that will accrue to him. A country trying to increase the income of its people has to follow an exactly similar procedure. The larger the proportion of its resources that it uses to produce various crops, industrial products and services, and the more fully it utilises its existing resources of land, labour, tools, machines, equipment, etc., the larger will be the national income and the higher the standard of living of the people.

The well-being of a farmer's family, however, depends not only on his income but also on the size of his family. Given his income, the larger the family, the smaller is the amount that can be spent on individual members and the lower their level of living. Or, to look at it from the point of view of a farming family which is growing in size, the well-being of its members can improve only if the income of the family grows faster than its size. The same conclusion applies to a nation : the larger the population of a country, the smaller the income per capita and the lower the living standards of the average citizen. Or, looking at the problem from the point of view of a country with a growing population, the national income must increase at a faster rate than the population if income per capita and the well-being of the average citizen are to rise.

To sum up, in order to achieve a progressive increase in the level of prosperity for its citizens a nation must use its existing resources, land, capital, labour, etc., as fully as it can, and devote an increasing proportion of its income to expand its capacity for production. In addition, if the population is increasing, investment must increase faster than numbers. The primary objective of development policy is to achieve these ends. All countries which are now developed such as Great Britain, the United States of

America, the Union of Soviet Socialist Republics, Japan, etc., have trodden the same path. In the case of all of them there has been heavy emphasis on productive investment in physical and human capital. They are now enjoying the benefits by having much higher incomes per head.

Welfare and Development Policies

But a people, just as a farmer, do not produce for the sake of production alone. The farmer wants to use his income as well as he can to improve the well-being of his family. So does a nation. This is the function of welfare policies, viz., to spread the benefits of increased national income as widely as possible, and add to the welfare of the people.

In the long run the interests of welfare and development policies converge. They have not only the same objective in view, viz.: higher well-being for the people but they are also inter-dependent. On the one hand, increased national income can have meaning only if it is used to increase the well-being of the people. On the other, greater well-being for the mass of the population is possible only if the productive capacity and the income of the nation rise and larger resources become available for expenditure on welfare. In the short run, however, there is some conflict between the claims of the two policies, especially if the income per capita of a country is low. There is, on the one side, the pressing need to ameliorate the present condition of the people through welfare measures. But to the extent that more resources are spent on welfare, less is left for implementing development policies, and current expenditure on welfare may increase at the expense of higher income and greater welfare in the future. On the other, there is a limit to the extent to which present well-being can be sacrificed in the interests of future prosperity. One of the first tasks in planning is to decide between these conflicting claims and arrive at the right division of resources between development and welfare.

Fortunately, the conflict does not run all the way down the line. Some expenditure on welfare, e.g., health, housing, training and education, is directly productive ; healthy, well-trained and well-housed men and women produce more than sickly, ill-trained, and ill-housed persons. Indeed, such expenditure can be legitimately regarded as investment in development. Only it is investment in human capital rather than physical, but is just as necessary. After all, the physical capital of a nation—its land, equipment, tools and machinery—has to be used by men and women. But unless the supply of educated and trained persons increases *pari passu* with the expansion of the physical capital, the instruments of production will be inadequately and inefficiently utilised; they will yield low returns. On the other hand, if too much resource is devoted to education and training and too little to building up physical capital the trained and the educated may not find enough opportunities for contributing to national development. One of the important tasks of planning is, again, to divide the resources allocated to welfare measures appropriately between those which add, in the main, to the well-being of the people and others which not only do so but also increase their productive capacity. There must be a balanced growth of physical and human capacity.

An economic appraisal of our welfare and development policies

Countries which are rich can afford to place strong emphasis on welfare policies and, at the same time, have sufficient funds left for expenditure on devlopment. A country which is relatively poor is unfortunately not in this happy position.

Since Independence, however, successive governments in this country have strongly committed themselves to welfare policies. As a result,

Education and medical services are free;

Houses have been built and made available on rent purchase terms and at low subsidised rents;

Bus and railway tariffs have been kept low;

The price of rationed rice is subsidised and kept well below the world market price;

Farmers have the opportunity to sell their paddy to the Government at prices about twice as high as the world market price;

Colonisation and village expansion schemes are subsidised; and

Wages have been kept at a fair and reasonable level.

These welfare policies have served important objectives, they have brought about quick benefits to many people, created equality of opportunities, furthered a more equitable distribution of national income and enhanced the productivity of our human resources.

But the emphasis given to human investment has been heavy in comparison with that on investment in physical capital. As a result, our rate of economic growth has been hindered and unemployment has increased almost continuously.

Investment in Physical Capital

A comparison

Compared with us several other countries in Asia and the Far East have done better. This is illustrated below :—

TABLE 1 : RATE OF GROSS DOMESTIC CAPITAL FORMATION, THE RATE OF GROWTH OF REAL GROSS DOMESTIC PRODUCT AND GROSS INCREMENTAL CAPITAL OUTPUT RATIOS 1954–58

Country 1	*Average rate growth of real Gross Domestic Product* 2	*Average rate of Gross Domestic Capital Formation (per cent per annum of gross domestic product)* 3	*Gross Incremental* Output Ratio (Col. 2 : Col. 3)* 4
Japan	9·3 †	30·4 †	3·3 : 1 †
China	14·5	23·0	1·6 : 1
Burma	3·8	20·6	5·4 : 1
Taiwan	6·3	16·0	2·5 : 1
Thailand	4·2	14·8	3·5 : 1
Rep. of Korea	5·0	13·1	2·6 : 1
Ceylon	3·4	12·0	3·5 : 1
Philippines	4·8	8·9	1·9 : 1
India	3·3	n.a.	n.a.
Indonesia	2·7	n.a.	n.a.
Pakistan	1·8	n.a.	n.a.

* The incremental capital output ratios used represent the ratios of the increments in gross capital formation to the increments in output. While it would have been theoretically more satisfactory to have used ratios relating the increments in net capital formation to the increments in output, ratios have not been computed in this form owing to the absence of reliable estimates of depreciation and hence, of net capital formation.

† 1955–59.

Column 2 of the table shows that during the year 1954-58, the rate of growth of real gross domestic product (i.e., the aggregate value of goods and services produced within the country during a year) was lower in Ceylon than in other countries of Asia with the exception of India, Pakistan and the Philippines. Columns 3 and 4 throw some light on this fact.

With the exception of the Philippines and most probably India, Indonesia and Pakistan, countries in this region invested a larger share of their gross domestic expenditure in physical capital than Ceylon. Countries in this region were able to obtain higher returns on their new investments than we did. To be precise, we devoted 3.5 percent of our gross domestic product to investment in order to achieve a one percent growth of real gross domestic product, while the Philippines achieved the same result by chanelling only 1.9 per cent to investment. Thus the Philippines increased their real gross domestic product on the average by 4.8 percent a year by devoting only 8.9 percent of its gross domestic product to investment while we devoted 12.0 percent to investment but achieved only a growth rate of 3.5 percent. It is believed that gross capital formation of the Philippines is understated and that a more reliable estimate would put it at over 10 percent of gross domestic product. But even if this lower figure is used, the capital output ratio in Philippines would be much lower than in Ceylon.

It is worthwhile to analyse the causes of both our relatively low level of investment as well as the relatively smaller benefits we have derived therefrom.

Our relatively low level of investment in physical capital

Broadly, the level of investment in physical capital in a country depends on two main factors. Firstly, on the number of persons in the public and private sector who are able, willing and available to take the risks and strains involved in undertaking investment and secondly, on the availability of finance.

Recently both domestic finance and external finance (foreign exchange) have become serious bottle-necks. But it cannot be said that finance was a major impediment in the past. The public sector was, year after year, characterised by consistent under-expenditure on capital account, and leaving aside small scale enterprises such as farming, fishing, cottage industries, etc., the private sector, too, was not short of capital for sound projects.

It follows, therefore, that up to now the main reason for our relatively low investment level in the private sector has been the lack of a sufficiently large number of persons able and willing to undertake the risks and strains involved in investment. The private sector, whether local or foreign, has established production along modern, efficient lines in export crops and a small number of industrial products; it has also established a few large efficient enterprises in the field of construction, engineering, transport, trade and banking. The rest of the economy, as far as it has not been reserved for the public sector, has remained in a comparatively undeveloped stage. As the Honourable the Minister of Finance said on a recent occasion:—

"This is particularly true of the post-independence era in Ceylon. In that period there were unrestrained opportunities for the private sector to forge ahead on its own terms and conditions. There is hardly any valid excuse for the failure on the part of the private sector to make use of these opportunities and the private sector has, thus, by its own conduct, placed itself, so to say, on probation".[1] ?

---

[1] In his written reply to certain comments made by the outgoing Chairman of the Ceylon Chamber of Commerce at its Annual General Meeting held in April, 1962.

The outcomes would have been different if, in colonial times, a positive development policy had been pursued. But this was not done ; the economy was left largely to itself. That is why the obligation has now devolved on the State to break through the economic impasse and directly undertake production with regard to a number of products basic to the life and sustenance of the community.

Our relatively low level of investment in the public sector

In a manner the situation in the public sector is similar to that in the private. In some fields, such as irrigation, land development, roads, posts and telecommunications, transport and electric power, skills have been acquired and experience gained over a considerable period of time. On the other hand, it is only recently that the public sector has embarked on projects in fields like manufacturing. These projects, handled by newly created public corporations, have been encountering great difficulties, particularly at the managerial level. There has been under-expenditure on capital account in public corporations, as well as in Government departments.

These facts explain the low level of investment in this country. It is not realised by many people that the per capita investment in this country amounts to less than one-tenth of that in developed countries. However, in the choice of products for investment, a country such as Ceylon, which has relatively abundant supplies of labour but scarce capital resources, should, as far as possible, select labour intensive rather than capital intensive projects. In terms of capital-output ratios, such a policy implies that, of two alternative projects, one of which requires more capital per unit of output than the other, the latter should be chosen, other things being equal.

Of course, there may be instances where projects having high capital-output ratios may have to be selected because they qualify strongly on other criteria. These criteria may relate to the likely contribution of foreign exchange earnings or savings, the surpluses that will probably be available for ploughing back into investment, or the presence of indirect benefits. Thus it would be wrong, for instance, to reject a hydro-power work on the ground that its capital-output ratio is high compared with a land development project. Clearly, the indirect effects resulting from increased power supply to other industries are of vital importance to the programme of economic development. Again, certain investments, though having a high capital-output ratio, have, nevertheless, to be undertaken because they are considered " essential ". This criterion of " essentiality " applies to many investments in the fields of transportation, communications and housing.

However, despite the qualifications just mentioned, there is good reason for giving special emphasis to investments with a low capital-output ratio in a country such as ours where capital is scarce. Our present overall capital-output ratio of 3.5, which is high compared to most other Asian countries, indicates that this has not been done.

An explanation for this situation which perhaps applies to other developing countries as well, is the general tendency for governments in newly independent countries to concentrate on investments of a capital intensive nature, sometimes for their prestige value. Criticism about consistent under-expenditure on public capital account may have also created a tendency to emphasise the level of investment rather than the benefits to be derived from them.

Economic surpluses of investments

Finally, investments generate further investments. They should not only contribute to an increase in gross domestic product and employment but also yield economic surpluses for financing further investments. This is particularly important because large groups of our population do not save or save very little. This applies to farmers, fishermen, small scale entrepreneurs (cottage industries, boutiques, &c.) as well as landlords and the middle classes all of whom have a very high propensity to consume. As a result, the main sources for financing net investment in a country like ours are surpluses of the public sector and large scale private enterprises. The Ten-Year Plan hoped to finance the Rs. 13,600 million required for gross investment as follows :—

		Rs. million		%
Depreciation		2,945		21·7
Govt. current account surplus	4,661		34·3	
Govt. business surplus	641		4·7	
Total Govt. Savings		5,302[a]		39·0
Private savings		3,224[b]		23·7
Selfhelp		855		6·3
Foreign aid and borrowing		1,275		9·4
		13,600		100

---

[a] Of which transfers and loans to the private sector Rs. ·295 million.

[b] Of which transfers and loans to the Government Rs. 1,085 million.

At present there is no surplus on government current account. Nor is there a surplus in the public business sector. One of the main reasons for the former is the imbalance between welfare and development policies.

Another reason is that a sizeable part of public investment, whether undertaken by public corporations or departments, does not yield a surplus. Some public corporations have been able to achieve a surplus, others not. Taken all together, they do not contribute to savings ; instead they constitute a burden on the government budget.

Of course, it is not always possible or even desirable to have public investments yield surplus. This applies to certain forms of social overhead capital, like roads which are a free facility and public office buildings. But these should answer the criteria of austerity and economy. Much depends here also on the relative emphasis given to welfare and development. In our country schools are free, in many other countries not. In our country bus and railway tariffs have been kept low. The resulting losses have then to be endured except in so far as these could be avoided through greater efficiency. In India a different policy is applied ; the railways, for instance, are expected to contribute at least Rs. 1,000 million to financing the Third Five-Year Plan.

In the case of certain important public investments—some irrigation and land development schemes, development of fisheries, public sector industries, certain housing schemes—the absence of an economic surplus is due to either of two causes or both. First, they were not conceived on economic basis, or where they were so conceived, they had become uneconomic due to inadequate planning. A second cause is that the projects have not always been operated as economically as they should have been. Potential economic surpluses are very soon turned into actual losses if there is a cumulation of unfavourable factors such as unused capacity, slow tempo of work, relatively high absenteeism, undue raising of wages or lowering of prices, rents or rates, and insufficient maintenance.

Outside the public sector, similar effects may follow, when investment goods are given out to private persons indiscriminately, e.g., if allotments of land are made to farmers having many children without requiring that they should, in addition, be able to cultivate the land in the best way, or if loans are given to fishermen who, notwithstanding considerable increase of income, do not properly repay them. Of course, there are other types of inefficiency and malinvestment in the private sector as well.

The absence of a substantial surplus in the public sector is a matter of concern. It implies that instead of having two major sources of public finance, viz. : taxation and profits of public corporations, we have only one. In other countries which have successfully established socialist society, the public sector makes the major contribution to the financing of economic development. This is also what the Ten-Year Plan envisaged.

Investment in Human Capital

Its basic importance

Development is, basically, not only an economic but also a human problem. It is now being increasingly realised that the more or less static or slowly developing countries are what they are because of some of their prevailing attitudes, values, institutions and policies. These are not conducive to economic growth or are insufficiently so.

In our country, there is a widespread desire for more rapid economic development. But understanding and acceptance of the requirements of economic development are not equally extensive. For years we have invested in human capital to a degree unparalleled in our region. In 1961, while we invested Rs. 995 million in physical capital, Government expenditure on education, health and food subsidies alone was estimated at Rs. 830 million in 1961-62. If we add to this expenditure intended to stimulate changes in human behaviour and result in higher production, such as agricultural extension services, paddy subsidies, subsidies for better seedlings, research, the total figure of human investment would rise to well over Rs. 1,000 million. However, considering our relatively low rate of economic growth, the beneficial effects cannot but have been small. The two main reasons are similar to those regarding investment in physical capital discussed earlier. It is not sufficient to devote large amounts to human investment. It has, first, to be done carefully and the right type of investment chosen and, secondly it has to be ensured that the investment yields adequate fruit.

The type of our human investment

(*a*) The need for reorientation

In our country the main emphasis has been on literacy and equality of opportunity for all. These are noble objectives which, no doubt, should be pursued. In many other developing countries a similar policy has been adopted, but it is more and more being realised that its contribution to rapid economic growth is modest. Not all education results in an increased capacity to produce, e.g. the study of arts which does not often lead to a substantially increased capacity to produce. Of course, every boy and girl should become literate, but it would be very important for them and the country if, in addition, they receive some practical education.

Similar observations apply to secondary and university education. Social values and custom have made education a search for status and the vast majority of pupils are being trained, without sufficient regard to opportunities or abilities. As a result, we are being flooded with men and women who have G. C. E. certificates and arts degrees many of whom have to accept any job they can find. It costs the state tens of thousands of rupees to have one arts graduate educated. In so far as there is no need for their services the money spent on their education benefits our country relatively little. At the same time there is a scarcity of good foremen, engineers, mechanics, doctors, scientists, research personnel, biologists, architects, etc.

Evidently, a change in customs and values is important for the progress of our society. There is also an urgent need for more publicity on the requirements of economic development through school books, radio, press, and films. Most important of all, we have to gear our educational activities to economic development by giving them a greater practical bias and technical orientation. The education imparted in the secondary stage should be so devised as to fit the students at least in an elementary way for the vocations in which opportunities for employment are expanding.

(b) The need for short-term effect

Another factor which explains the relatively small benefit from human investment is the time lag between education and the yield from it. The building of a better future cannot wait till the investment in the present generation of boys and girls bears fruit; in some measure, it has to be undertaken by the adults of today. This brings out the need for adult education as well as for action outside the sphere of education in the narrow sense, e.g., activities such as agricultural extension services, extension services to small-scale industries, publicity, research, institutions for securing public co-operation and participation, community development and co-operative enterprise.

(c) The need for experience

In most fields education has to be supplemented by experience in order to bear full fruit. This brings out the importance of arrangements for apprenticeship, for training on the job and education of workers who have the ability to train others.

A special problem exists with regard to training for the management of large-scale enterprises. As mentioned before, managerial skills are in very short supply. In developing countries, the spirit of enterprise is not altogether lacking. But there is lack of experience of techniques, management, organisation and personnel relations. Some of these things can be learnt in institutions, e.g., principles of organisation, keeping of records and management of men. But others such as efficiency, creation of internal and external goodwill, etc., have to be learnt through experience. The experience can be gained in well organised enterprises at home and abroad. Germany sent its future industrialists to Great Britain in the last part of the 19th century, Japan to Germany and the U. S. A., and India, recently, to all developed countries. India herself is fast becoming a training ground for meeting some of the urgent requirements of the neighbouring countries.

The use of our human investment

Like investment in physical capital, investment in human capital has not only to be well conceived but also to be used effectively. A major factor, contributing to the relatively small benefits from our human investment, is that we make only a partial use of it. On a minor scale, this occurs when persons who have had training on the job are transferred to posts for which they are not trained, or when persons who received fellowships abroad are given work in entirely different fields after their return or when persons who received specialised training are diverted to other fields. By far the most important cause, however, is the imbalance between investment in physical and human capital. The insufficient emphasis given to investment in physical capital and the failure to gear human investment to it have resulted in large-scale unemployment and under-employment.

The seriousness of this problem is not fully reflected in the figures of registrants for employment or better employment. According to a survey conducted by the Ministry of Labour about 375,000 persons were unemployed in 1959. In addition, under-employment was about 35 per cent in rural areas and 20 per cent. in urban areas. Unemployment and under-employment of this order of magnitude are incompatible with the socialist ideals. An appropriate re-orientation of investment in human capital can make a significant contribution to the solution of this problem.

Population Growth

Introduction

Our population began to grow at an unprecedented rate in 1947, when, as a result of the intensive efforts made during the war, malaria was virtually eradicated. It is now one of the factors which militate against the growth of the economy, especially against the rise of income per head.

In the past fifteen years, we achieved a rate of economic growth which slightly exceeded the rate of population growth. As a result the gross domestic product per head increased by about 1 per cent. The improvement, though measurable statistically, is so small that it is hardly felt in real life.

There are two schools of thought regarding the significance of population growth for economic development. The first school which usually prevails in developing countries like ours takes the occurrence of rapid population growth rather lightly. Its protagonists point out that economic growth has out-stripped population growth by a small margin, that each additional citizen has not only a mouth to eat but also a pair of hands to work, and that when the standard of living rises, the birth rate will begin to decline. The second school of thought as a rule begins to exert influence only in course of time; then both leaders of the country and the people in general become conscious of the rapid population growth and its implications and come to regard it as a serious problem. This was the stage reached in this country when the Ten-Year Plan was prepared under the Government of the late Prime Minister, the Honourable S. W. R. D. Bandaranaike. The Plan attaches great importance to the rapid growth of the population of Ceylon.

Population growth and capital requirements

Population growth has obviously an impact on the magnitude of the economic, social and financial problem which we have to solve. For instance, Government current expenditure on food subsidies, education and health is now considerably higher than it would have been if our population had increased at a lower rate. The same applies to our import requirements and the scarcity of foreign exchange. The implication of poplation growth for capital requirement is well illustrated quantitatively. Before 1947 our population increased, on average, by about 1.7 per cent a year. In order to arrive at a two per cent increase in the gross domestic product per head, as envisaged in the present Programme, we would have to achieve a rate of economic growth of 3.7 per cent a year. On the basis of a gross domestic product of about Rs. 6,340 million in 1961-62 and a capital output ratio of 3.5., the required amount for investment in 1961-62 would be 3.5 × 3.7 or 12.95 per cent of Rs. 6,340 million, i.e. about Rs. 820 million.

At our present rate of population growth of 2.8 per cent per annum a 2 per cent increase in the gross domestic product per head would require an investment of Rs. 1,065 million. In other words, in 1961-62 we have to invest Rs. 245 million (Rs. 1,065 million—Rs. 820 million) more because our population is growing not at 1.7 per cent. but an 2.8 per cent a year. We are thus involved in a race between economic growth and population growth. Moreover, it is not generally realised that in the effort to win this race we are in danger of losing other races equally important. By concentrating on productive investment, it is possible to achieve a rate of economic growth which outstrips population growth. But, -too little capital funds will be left for investment in say, housing, of which there is already a serious shortage.

One of the ways in which the people in general become conscious of the implications of rapid population growth is when it begins to affect their individual lives. They become increasingly aware that it is more and more difficult to find a house because the gap between population growth and housing is widening. They are aware that fragmentation of land reaches more and more critical proportions because the gap between population growth and the opening up of new land is increasing. They become aware that the hardships caused by unemployment and under-employment are spreading because the margin between the growth of the workforce and the creation of additional employment opportunities is expanding.

All these races have to be won if our problems are to be solved. These races will last for many years to come; a generation which will require schools, houses and jobs is already born. On the other hand there are no signs, so far, of a decrease in the birth rate. This is worthwhile mentioning because, though the standard of living in our country has been rising over a long period of time, the expectation that it will, more or less automatically, result in a decline in birth rates has, so far, not been realised.

Thus our rapid population growth presents a serious problem. This is also the view taken in the Ten-Year Plan. In fact in setting its targets at ambitious levels it was generally influenced by the rapid growth of our population.

The nation has, ahead of it, an extremely difficult task; it has to meet the challenge of our rapidly growing numbers but with its available capacity and resources. Hence the need for a new approach towards economic development.

A New Approach to Economic Development

It should now be abundantly clear that there is no simple and easy way by which we could achieve a break-through and initiate a process of rapid, self-sustained economic growth. Too many factors are involved and they will take years to be changed for the better. Hence the road ahead cannot but be long and difficult. Our situation is, however, not unique. According to a recent publication of Economic Commission for Asia and the Far East it would be rather unrealistic to expect many under-developed countries in the region to attain a stage of self-sustained economic growth within, say, 20 years.[1] This is also confirmed by the experience of countries which are now developed. It took from one hundred to one hundred and fifty years for the first countries to become developed. It took two to three generations for countries who started their develompent at a later date.

---

[1] Economic Bulletin for Asia and the Far East, Vol. XII, No. 3, December 1961, page 25.

It will take us time to reach a standard of living comparable with that of the developed countries; but what is important is that each generation should make its contribution to the progress of the country and enhance the prospects not only of that generation but also of generations to come. Besides, the problems we have to face and solve are far more difficult than those which the countries that went ahead of us in development encountered. On the one hand, the scarcity of our resources in capital and skills is probably not more serious than theirs was in the early stages of economic development. On the other, our population is increasing at a rate which is about three times as fast as theirs at the corresponding stage of development. Moreover, in most countries of the Western world, economic development preceded population pressure, while in our case we have to face population pressure ahead of economic development. Hence the magnitude of our problems in regard to creating additional employment opportunities, raising more capital, building more houses, and schools, opening up new land, etc., is both absolutely and relatively to our resources much greater. In addition, there is the impeding influence of certain attitudes, values, institutions and policies which are not sufficiently conducive to rapid economic growth, and which cannot be changed enough for the better in a relatively short period.

II. APPLICATION

Objectives

In order to bring about a turn in the process of development it is necessary to adopt a new approach. This approach will be governed by the objectives of planning.

The first objective is to increase the prosperity of the people. In building a better future, the three main bottlenecks are scarcity of capital, foreign exchange and skill. Hence, it is absolutely essential to make the most economic use of these scare resources as well as to increase their supply.

Secondly, as unemployment and under-employment are incompatible with socialist ideals, the Programme should seek to eliminate this evil as rapidly as possible.

The third objective is to diversify our economy and make it less vulnerable to external changes. We should, at the same time, aim at attaining equilibrium in the balance of payments on current account or at least keeping the deficit within manageable limits.

Fourthly, there is need for keeping the price level relatively stable.

Fifthly, the Programme should aim at an equitable distribution of national income. The creation of employment opportunities, in addition to current welfare measures, is one of the most potent means to this end in the present situation. It will afford income opportunities for all those who benefit directly and lessen the burden on those who now have to support the unemployed and under-employed members of their families.

The strong points of our economy

In the pursuit of these objectives, we have the benefit of certain strong points of our economy.

At present Ceylon has, measured by Asian standards,—

extensive irrigation works ;

a plantation sector of markedly high productivity;

an extensive and fairly good road system ;

harbours and railways with fairly satisfactory equipment ;

hydro-power works ;

a relatively high standard of literacy and health ;

a relatively qualified public service.

Most of these are reflected in an average income in Ceylon which compares favourably with most other countries in the region. Actually, our income standard is not much below that of some economically less advanced European and South American countries. Our income per head is about double that in India.

Vulnerability to unfavourable external changes

On the other hand, our heavy dependence on three export crops makes our country vulnerable to external changes. Of course, the increasing ability to prevent serious international depression has reduced this vulnerability, and we are in a less vulnerable position than a country which has to depend on only one export crop. But, there is reason for concern. Other countries are rapidly expanding the production of tea, rubber and coconuts, and though nobody can foresee whether supply will outstrip demand and result in declining export prices, we should in future, count less on our export trade than we have done up to now.

Another reason for not being too optimisctic is that in developed countries the supply of many agricultural products has tended, thanks to the application of modern agricultural methods, to outstrip demand for food over long periods of time. As a result, surpluses and subsidies and guaranteed prices to prevent losses or the income of the agricultural sector from falling too low have been rather the rule than the exception. A similar unfavourable situation might develop with regard to tropical agricultural products now that increasing emphasis is given to modern agricultural methods both in our country and elsewhere. In the case of our main export crop, tea, for instance, the Ten-Year Plan expected that the yield from better strains and vegetative propagation could be raised on average to 1,600 lbs. per acre as against an average yield on estates of 771 lbs. in 1957. In addition substantial gains in output can be achieved through the continued application of fertiliser.

In the light of these facts and possibilities it is necessary for us to diversify our economy. In the Ten-Year Plan the main emphasis in this respect was given to import substitution resulting in foreign exchange savings. Considering our present foreign exchange situation and possible unfavourable developments regarding the prices of our exports in the future, it will also be necessary to try to establish new export industries so as to increase our foreign earnings. This is all the more so because as import-saving production gathers momentum the scope for further import substitution and foreign exchange savings would become smaller and smaller. It would seem wise not to wait too long. Several other countries in the region are making great efforts for the development of their export industries. As a result, the chances which we have today for the successful establishment of such industries may not exist at a later date. In view of the vital importance of increasing the availability of foreign exchange as rapidly as possible the foundations for new export industries cannot be laid too early.

The strategy of development

A very important factor determining the degree of success in achieving our objectives is the strategy of development which we adopt and the methods and techniques we use to carry it out.

The problem of strategy may be put this way: Should we concentrate our efforts mainly on one, two or more sectors? If we decide to develop all sectors, should we develop certain sectors more than others?

We can answer these questions from five points of view. Remarkably enough, the answer is the same.

(i) *The long-term point of view.*—The long-term point of view suggests that we should develop all and not merely one or two sectors.

(ii) *The balance of payments point of view.*—At present the preponderance of the plantation sector makes Ceylon very vulnerable to external influences. Greatly affected by fluctuations in the terms of trade, our savings show violent changes. Within a few years they may vary from several hundreds of million rupees to only about two hundred million. As a result, both our domestic and foreign finances are unstable.

While we have to develop our plantation sector to earn more foreign exchange for development, we should develop other foreign exchange saving and earning sectors as well in order to make our economy less one-sided and less vulnerable to external changes.

(iii) *The national point of view.*—A truly national programme of development should seek to lay special emphasis on those sectors which were neglected in colonial times but have great potentialities for development.

A spectacular development is envisaged for paddy, and other non-plantation crops, animal husbandry, fisheries, manufacturing industry and housing.

The already developed or fairly developed sectors (plantations, transport, power, education, health) have been given the requisite emphasis for expanding our economy.

(iv) *The urban and rural point of view*—Increased pressure on land has given rise to migration of people from rural to urban areas. In many economically advanced countries similar migration is taking place; the surplus agrarian population is absorbed by urban areas where a process of rapid industrialisation and expansion of secondary and tertiary activities is in operation.

However, at the moment the situation in Ceylon is different; the possibilities of absorbing substantial numbers of rural people in urban industries are limited. We are faced with great difficulties in developing the manufacturing industry. In respect of large-scale industry, in particular, we are confronted with the problem of mastering technical, managerial and other skills as well as of raising the large amounts of capital required, and it will be some time before this sector becomes a major source of income and employment for the people. Meanwhile, the migration from the rural to the urban areas is creating serious problems. As in other Asian countries we are confronted with over-urbanisation which manifests itself in unemployment, slums and low standards of hygiene, recreational and other facilities.

In order to cope with these problems it is, on the one hand, necessary to develop urban planning in fields like housing, social services, etc., and on the other, to create as quickly as possible additional employment opportunities in rural areas through intensive and well-conceived agricultural extension services, improved tenurial conditions, better credit and marketing facilities for agricultural products, better irrigation facilities for existing cultivable land, opening up of new land, small-scale industries, rural electrification, community development, etc.

(v) *The regional point of view.*—It is, finally important to arrive at a balanced growth of the several regions of the country so as to prevent the emergence of depressed areas. Experience elsewhere in the world shows that once such depressed areas develop it is difficult to bring about improvement in their position. Moreover, depressed areas having a relatively low demand are a brake on the expansion of the rest of the economy. The regional point of view thus calls for an appropriate expansion of different sectors based upon the development potentialities of the several regions of the country.

These considerations suggest that all sectors should be developed, special emphasis being placed on those which were neglected in the past but have great potentialities for development. At the same time this should be done in such a way as to arrive at a balanced growth between the several sectors as well as between rural and urban areas and between regions.

Methods and Techniques

But we can adopt such a comprehensive strategy of development provided we use the right methods and techniques, especially in the use of our scarce resources, viz: capital, foreign exchange and skill. Broadly speaking, the solution of our financial and economic problems including unemployment, lies in the careful use of our scarce resources and their increase in every possible way. This should be supplemented by a policy of vigorous import-substitution and appropriate education and training programmes for increasing the availability of skill. If economic development is to be an active force in the life of our people, it is essential that at all stages of education, the aim must be to develop skill, knowledge, a creative outlook and a feeling of national unity which stands above religion, caste, creed and race and is strengthened by emphasis on common interests and obligations.

The scope for intelligent use of capital can be illustrated by the investment programme for tea in the Ten Year Plan. The programme is based upon a scheme of replantation involving progressive uprooting of old trees. The scheme would cost Rs. 197 million during 1959-68, but as a result of progressive uprooting it will not add to the output of tea in the first 8 years. Only in the last 2 years it would increase the output by 4 million pounds. On the other hand, a relatively small investment in fertiliser would increase the output of tea during these years significantly —by 86 million lbs.,—provided, of course, uprooting is stabilised at a certain level. The results would be similar to those which we may soon expect from the rubber replanting scheme which was started much earlier, namely in 1952.

From the above it follows that at least in the short period a relatively low (net) capital-output ratio can be achieved by a different use of existing capital. This is an important conclusion ; it provides us with a promising means of solving our problems. If in our most important and already highly productive sector such spectacular increases in output can be obtained through better use of existing capital, how much more so will this be the case in other sectors, notably in those which, due to neglect in the past, are still in a backward stage.

But it is important to note that even in developed countries, the volume of investment is not the only, and often not even the main, factor in economic development. A recent statistical analysis made by the Secretariat of the United Nations Economic Commission for Europe shows that in the post-war growth of Western European countries " inputs of labour and capital account for only a part—and often a relatively small part—of growth, and that more intangible factors, whether they are labelled ' technique ' or ' organisation ' or the ' human factor ' play a very important role "[1].

---

[1] United Nations Economic Commission for Europe, " A study of Determinants of Growth in Europe during the nineteen-fifties," March 1951.

There are various ways in which it is possible to economise the use of capital in a country where it is scarce. First, the capital output ratio in a country is an average of widely different capital output-ratios in individual industries, while some industries are capital intensive, others are not, and it should be possible,—wherever there is choice,—to use the labour intensive techniques and methods of production. Secondly, wherever the opportunity exists, capital saving devices e.g. adoption of austerity standards in building schools, hospitals etc. should be adopted. Thirdly, every attempt should be made to use existing capital as efficiently as possible. By following these methods and techniques a country can significantly lower its overall capital-output ratio.

Great benefits at little or no capital cost

(a) *Export Crops.*—In the field of export crops, great advantage can be obtained, as indicated earlier, by the use of fertiliser.

(b) *Non-export agriculture.*—In non-export agriculture, substantial increases in the yield of paddy can be obtained through the use of fertiliser, high yielding strains, better cultivation methods, etc. What is needed most is efficient agricultural extension services rather than more capital investment. In fact with virtually no capital investment, substantial and widespread benefits can be obtained.

(c) *Fisheries.*—Besides non-export agriculture, fisheries have also been a neglected sector in the past. Here the Ten Year Plan envisaged spectacular increases in output at a relatively low investment cost (capital output ratio 1.5 : 1).

(d) *Labour intensive industries.*—The development of efficient labour intensive industries such as small scale and cottage industries, construction and small scale trade, transport and services sector would provide for substantial income and employment opportunities at relatively low capital cost. It would also help in building up a larger pool of technical skills not only for simple but also for complicated work. As in small scale farming and fisheries, there are great potentialities in this sphere for increasing output through better methods. It is relevant to mention that the Government recently entered into an agreement with the United Nations Special Fund for the establishment of a Small Industries Services Institute.

(e) *Austerity standards for houses and schools and public buildings.*—It would be possible to provide for a large number of units than is otherwise possible if we adopt austerity standards. We cannot produce enough houses and schools to match the population increase unless we adopt such methods.

(f) *Self-help.*—The Ten Year Plan provided for the creation of Rs. 855 million worth of capital through self-help. This again is an important method of the mobilisation of our abundant labour reserves for the purpose of economic development.

The Perspective

It is not generally realised how large results can be obtained with relatively little or even no capital investment. In view of the great potentialities for increasing output through better methods in non-export agriculture, in small-scale industries and even in the estates we would be able to increase our gross domestic product substantially at a low cost if we could immediately and universally apply these better methods.

By lowering our capital-output ratios in this manner, we many reduce our total capital requirements considerably. In addition, we shall save foreign exchange, mobilise our abundant labour resources, create widespread benefits, counteract inflation and help maintain our cost of living at a relatively stable level. Whether we shall succeed in reducing our financial requirements to manageable proportions, will depend on the degree to which we are able to effect large-scale economies in these respects.

Investment in Human Capital

The same principles which apply to the use of physical capital also apply to that of human capital.

First, we should make a better use of existing human capital. We should give due emphasis to those activities which employ skills that we already have. At the same time we should use our abilities to the fullest degree, and as fast as possible, mobilise our unused labour resources. Further, we should improve existing skills through extension services, training on the job and self-help. Investment in human capital organised in this manner will yield quick results. Finally, we have to provide the skills required for the extension of existing fields of production and new fields of activity. To this end education would have to be re-orientated and vocational guidance given.

III. METHOD

Changes in Policies, Institutions etc., to Foster Economic Growth

It is now evident that there are two major ways of furthering economic development, viz., (*a*) the creation of greater capacity to produce through investment in physical and human capital, (*b*) a better use of the existing stocks of capital, physical and human. But these methods can be pursued effectively only within the framework of appropriate policies, institutions and organisations.

The Public and the Private Sectors

The main function of the Government, in the context of development, is to make a decisive contribution towards a break-through in the rate of increase of national output while establishing a socialist society. This does not imply that all activities have to be carried out by the Government. Certain essential work, of course, can be undertaken only by the Government. But it can leave other work to private enterprise so long as it has at its disposal all the modern methods of controlling the economy. These will enable it to influence its economic, social and financial aspects (e.g. prices, profits, wages, investment, trade, etc.) in the way it considers desirable, and to ensure that both public and private sectors function in accordance with national interest.

It is in this manner that economic development can most effectively be realised. Any other approach will involve still greater loads on the administrative machine and may lead to the emergence of a fourth bottleneck—administrative—besides the three already mentioned, i.e. scarcity of capital, foreign exchange and skill. The tasks facing the Government in developing our economy place heavy strains on its resources of managerial, administrative and technical skills as well as on its finances. In addition to traditional functions such as maintenance of law and order, defence, provision of public utilities (roads, power, etc) education, health, housing and regulation of the money supply, it has to undertake such obligations as the furthering of a more equitable distribution of national income, keeping the price level relatively stable through subsidies and price control, establishment of public enterprises in essential fields, assistance to small scale enterprises in agriculture, fishing, small-scale industries, etc., creation of additional credit and marketing facilities, regulating imports, channelling a greater share of national income towards development, establishing leadership in the field of attitudes and values, furthering changes in policies and institutions which promote economic growth, reshaping the organisational structure of our society, etc. The ability of the administrative machine to meet the demands imposed on it in an efficient manner will be an important factor determining the attainable pace of economic growth. Any overloading of the Government machinery would result in further bottlenecks which would retard economic development. Moreover, the financial requirements of the Government would increase out of proportion to its resources.

In view of the tremendous tasks ahead especially that of solving the unemployment and under-employment problem, it is essential that both public and private sectors make the maximum contribution towards economic development. Two major tasks confronting our country in this respect are the expansion of production in new fields and the achievement of a better performance in traditional fields. Of these two, the expansion of production in new fields is by far the more difficult. That is because we have to adopt techniques with which we are not familiar. This is one of the difficulties that made it hard for private enterprise to make progress in new fields. The Government in stepping in to bridge this gap experiences the same difficulty. The problem is one which all developing countries have to face. In some traditional fields such as non-export agriculture, fisheries, and small-scale industry, private enterprise has made very little progress, because over a long period of time insufficient active Government assistance was given.

Administrative and Policy implications

But maximum contribution by the public and private sectors towards economic development presupposes certain administrative norms and policy decisions. It requires—

(i) that the Government clearly defines the fields of production it wishes reserve for itself (this has already been done);

(ii) that policies of Government in respect of various aspects of economic development are consistent with one another;

(iii) that once a policy of the Government has been defined, it is maintained for a reasonable time;

(iv) that public enterprises are required to be efficient;

(v) that the Government administrative machinery is run efficiently;

(vi) that a favourable "investment climate" is fostered through tax incentives, import control, etc.

(vii) that small-scale private enterprise, e.g. small-scale farming, fishing, small-scale industry, are assisted through extension services, credit and marketing facilities.

Reshaping the Organisational Structure of our Society

(a) Central Government

Some changes are necessary in the governmental organisation in order to enable it to concentrate its activities on economic development. These have been outlined in the " Budget and Economic Development " presented to Parliament on July 27, 1961.

(b) Public Corporations

(i) The need for autonomy within specified limits

One of the main reasons why certain public corporations suffer losses is that they have not as yet evolved efficient procedures and working rules. Another reason is that they have not been placed in a position to resist the demands for the upgrading of wages. There is also marked evidence of a lack of proper system of cost accounting, though this is basic to any reorganisation designed for obtaining maximum efficiency.

In order to become efficient and successful, the managements of public corporations should be able to take prompt decisions and act in a business-like manner. This calls for much greater initiative and enterprise than they have shown.

(ii) The need for rules

But this does not imply that public corporations should have complete independence. There would have to be rules governing appointments, salaries and wages, labour relations, price procurement and financial regulations etc. There should also be an official nominated by the Minister of Finance, who will act as a financial adviser to the Board of Directors.

As a result, there would be a sufficient degree of autonomy while at the same time there would be an assurance that the public corporations would play their part in economic development within the framework laid down by the Government. Managements should not be challenged on individual issues but should be held responsible for over-all results. If a managing director fails after having been given a fair chance, he would have to be replaced.

(iii) Parliamentary control

The Government intends to have a Select Committee of Parliament to receive the Annual Reports and Accounts submitted by the various public corporations and to review the broader aspects of each corporation's work with a view to assessing how effectively it is carrying out the functions for which it was set up. The Committee would submit an Annual Report to Parliament on each corporation.

(iv) Auditing

The accounts of every public corporation should be audited either by the Auditor-General or by a firm of commercial auditors selected by the Auditor-General who will have the right to supervise the work of the firm and will call for any additional information required.

(c) Organisation for securing Public Co-operation

In the past, co-operation between the Government and the people has taken place through advisory committees. It is the intention of the Government now to establish an organisation to secure public co-operation in a more systematic manner.

This organisational set-up would serve two purposes. Firstly, it should help in creating a greater understanding and acceptance of the requirements of economic development. It will also help to create a more general awareness of the problems of economic growth, thereby contributing a great deal towards the growth of informed public opinion. Secondly, it would enable the Government to keep itself informed of the needs, prospects and progress in the several sectors. This would be of value in formulating economic programmes and in deciding on broad magnitudes, especially when adequate data are not available. Such information might also be helpful in the formulation of new policies or the appraisal of existing policies.

It is intended to appoint for each Ministry or Department an advisory committee consisting of representatives of public and private sectors. It would be of advantage to have in each such committee a representative of the Department of National Planning.

In local Government organisations, too, it is intended to establish similar committees consisting of officials and representatives of the area to discuss and review schemes for the development of their own districts.

It is very necessary to give wide publicity to subjects related to the Government economic development programme through various media such as the radio, films, press, school books, etc.

Action

The Short-term Implementation Programme is meant to be a plan of action. There are, however, a great many factors operating in our country which impede action. The central issue is how these impediments can be removed. In the final analysis all depends upon the human factor, for the programme has to be carried out by the people.

The answer to the question 'how to get things done' is in principle very simple but in practice quite complicated. What is needed is a system of devices which will induce the people to take the action that is required for further economic development.

Three types of devices

Broadly, there are three types of such devices: participation, discipline and incentives.

(*a*) Participation

In a democratic country the active co-operation of the people will, to an important degree, depend on their understanding and acceptance of the requirements of economic development. Steps have to be taken to achieve this. In the sphere of the public sector, the establishment of close co-operation between the Department of National Planning and the Ministerial Planning Committees is meant to serve the above mentioned purpose.

With regard to the private enterprises, whether large or small-scale, public co-operation will be furthered by the systematic establishment of advisory committees in various fields and at various levels.

A nation-wide programme for publicity will serve the same purpose. Lectures and seminars arranged by educational institutions will also help in stimulating interest and constructive criticism. The strategy of development outlined in the Programme which would result in widespread benefits is also expected to arouse general interest in economic development.

(*b*) Discipline

Without a sufficient degree of discipline neither a people nor an organisation can achieve great things. It requires punctuality and the production of adequate results within reasonable time limits. As we have to solve a large number of problems, there is a need for great discipline. This conclusion applies to both public and private sectors.

The Public Sector

In the first place, clear and realistic targets in respect of projects, programmes and policies requiring a high degree of performance have to be set. As part of this programme the policies with which different ministries are concerned have been listed. This does not imply that all of them can be implemented in the fiscal year 1962-63. Some of them will require a number of years because of their complexities. The list provides, however, a comprehensive instrument for purposes of progress control.

Furthermore, the Government intends to elaborate a system of performance budgeting including the establishment of certain financial norms (investment cost per mile of road, investment cost of a certain type of house etc.). This will take a number of years to be elaborated fully.

Again, Departments, public corporations etc., should perform in accordance with requirements of the targets.

Departments will be given greater opportunities for speedy action by simplifying financial regulations. Measures have also been initiated to improve organisation and methods, to eliminate bottlenecks and so on.

The government is also considering the question of giving certain preponderantly technical departments a position similar to that of public corporations.

Furthermore, there has to be a simple but effective system of progress control on broad issues within the Cabinet and the Ministries. Next year Government will report to Parliament on the progress made with regard to several targets.

Those who are responsible will have to give an account if progress made is inadequate. With regard to public corporations it was already indicated that if a Managing Director failed after having had a fair chance he would have to be replaced.

The Private Sector

In general the private sector has a similar approach to discipline. Wherever the methods used by it to maintain discipline are fair, the Government will give its support.

There arises here an aspect of discipline in connection with the control which the Government exercises over the economy. Here it is necessary to realise that there are limits to the degree of discipline which the government can impose in the field of economic development. It can enforce the payment of taxes; it can control import quotas and foreign exchange; but it cannot stipulate that a citizen establishes an enterprise or that a farmer has to increase his production. Here the role of the Government is rather to give encouragement and provide extension services to the farmer and, in general, to create conditions favourable to economic growth.

(c) Incentives

In order to create preconditions favourable to economic growth, incentives, in the broadest sense of the word, are needed.

In the first place, there are financial incentives such as tax concessions for certain investments and subsidies for the production of certain commodities. Investors, whether public or private, will be induced to go ahead with their plans the more they believe they are able to earn their money back. People in charge of certain property should have an interest in maintaining and improving it (for example, the reform of the tenurial system). Competition provides a powerful incentive to greater efficiency. For this reason it is necessary to see that protection given through import control does not limit competition too much. A rational wage policy is another incentive.

The second category of incentives is of a non-financial nature. Men are induced to take action if they find satisfaction in their work and in the conditions under which they work, if they gain in prestige, if bribery is repressed, if achievement is recognised and discrimination is avoided, if there are not too many impediments through red tape, and so on.

Conclusion

In thus tracing the road towards a better future for the people, the Government has borne in mind the urgent need for short-term benefits while phasing in proper perspective the long-term results. These benefits are designed to be as widespread as possible so that the greatest possible number may share them. This approach to economic development has made possible a comprehensive analysis of our problems and provided a broader basis than that of the usual one which concentrates mainly on capital investment and the training of skills. It has produced new ideas and revealed new points of emphasis in regard to the manner of economic development. The magnitude of the task ahead requires the united effort of the entire nation. It is, therefore, of the greatest importance that everybody understands what is at stake and makes his contribution according to the best of his ability. Most important of all, it calls for national unity. It may not be possible to translate into action all the ideas in the Programme during the short period covered by it but it nevertheless sets the course for a richer and fuller life for the people.

PART TWO

BACKGROUND AND ANALYSIS OF THE PROGRAMME

CHAPTER 2

NEED FOR THE PROGRAMME

The Ten-Year Plan was primarily a perspective plan designed to define objectives and strategy and to prepare, in relation to them, a framework of national and sectoral targets. The details it contained with regard to project composition in certain sectors did not alter its fundamental character. Economic development is a dynamic process and no forecast, however sagacious, can correctly estimate the changes and needs of an economy over as long a period as ten years and lay down rigidly the project content of each sector. Needs, resources, investment potentials and implementation capacities change and the structure of the programme has to shift in response to these changes.

For example, internal and external finance became serious bottlenecks. A Short-Term Implementation Programme detailing projects and elaborating the policies and organisational measures needed to realise its objectives was therefore necessary. Nevertheless the objectives of the Ten-Year Plan have to be pursued. The ways in which this could be done in a considerably less favourable financial situation were implicit in the Plan. As mentioned in the Introduction to the Programme, quick benefits can be obtained at relatively low cost through a better use of our substantial stock of capital, and shifts in favour of less capital-intensive and more labour-intensive investments. It is this approach that has been elaborated in greater detail and given greater emphasis in the new programme.

The Ten-Year Plan aims at a total investmnnt of Rs. 3,844 million in the three years covered by the Short-Term Programme. The corresponding figure for the latter is Rs. 2,270.2 million. It is not however very meaningful to compare these totals. The Ten-Year Plan was not put into effect and its assumptions tested in the light of facts. Besides, these facts changed significantly between the preparation of the Plan and the Programme.

The central issue is now whether the objectives of the Plan, viz., increased output, employment, balanced international account are being pursued or not in spite of the adverse changes in the circumstances of the economy. The new programme seeks to achieve these at a lower cost by increasing the emphasis on less capital-intensive forms of investment.

This is, of course, a short period approach. But while there is a need for a new long-term plan it would not be opportune to elaborate such a plan at the present stage before sufficient experience has been gained.

The experience that will be gained in the next few years will provide the basis for the elaboration of a new perspective plan. Meanwhile, a short-term programme is necessary to help the economy move forward.

Before, however, such a programme could be prepared there was an urgent need for strengthening the country's resources position which had considerably deteriorated and was continuing to deteriorate. A number of measures, monetary and fiscal, were taken by the present Government to conserve foreign exchange, reduce non-essential domestic consumption, and stimulate and mobilise savings for development.

Subsequent to the adoption of these measures, preliminary steps for the preparation of the first Short-Term Programme were taken simultaneously with the preparation of the Budget for 1961-62. It was decided, on a preliminary survey of the resource outlook and other factors, that over the next three years at least it would be unrealistic to aim at anything more than a 2 per cent. annual rise in per capita income. This was, therefore, taken as the Programme's minimum target. It was felt that this rate of growth would require total public sector investment of the order of Rs. 635 million in 1961-62, the first year of the programme, of which it would be possible and desirable for the Government to take up roughly Rs. 523 million. The Government Budget for 1961-62 was drawn up on this basis. Its provisions regarding current expenditure, capital expenditure and taxation were thus in effect part of a new, though yet very tentative, Short-Term Programme.

This is one reason why although the Programme is only issued now, it should be taken to have commenced in 1961-62. Another reason is that it was only in 1961-62 that the Government's budgeted capital expenditure was raised to substantial levels. The year 1961-62 thus marked the beginning of a new period in which the Government first took determined and sustained action to step up its development expenditure.

The Short-Term Implementation Programme lays down, in a concrete form, the investment pattern for the public and the private sectors over these three years. While the private sector programme would necessarily be somewhat uncertain, as it would have to be implemented indirectly by means of incentives and disincentives, the public sector programme would be firmer and the Government's capital budgets for the years 1962-63 and 1963-64 would be consciously geared to the targets laid down in the programme.

The present Programme has been drawn up under many limitations. There are, for instance, still many gaps in the basic statistics on which planning in Ceylon has to be done. Apart from limitations in data, the planning apparatus also is yet far below optimum standards required for working at peak efficiency. With the creation of Planning Committees in each Ministry, however, Government feels that an important improvement in the organisational side of planning has already been effected, but further changes both in organisation and procedure may be necessary. As organisation, procedure and supply of data improve, the plans that will emerge therefrom will also improve technically.

In view of these circumstances, the Department of National Planning now proposes to make planning a continuous process by preparing a "rolling plan" every year for the next three years. Such plans, however, would not be published. The plans that would be published would be non-overlapping plans for successive three-year periods. Thus, the next Three-Year Programme covering the years 1963-64 to 1965-66 would be prepared but not published. The Programme that would be prepared for the next three years 1964-65 to 1967 would be issued and adopted officially.

This arrangement would preserve the advantages of both rolling and non-overlapping plans. Rolling plans make planning technically more sophisticated. But their shifting and overlapping annual targets may create more confusion than enthusiasm for planning in the country. It is only non-overlapping published plans, generally covering three to six years, which evoke the greatest public enthusiasm and which are now being adopted in most under-developed countries. Such plans have the added attraction of lending themselves to better publicity campaigns and performance control.

With regard to the Programme period, it is convenient for the Government both for budgeting its capital expenditures and checking their execution, if the Programme is drawn up in terms of its financial year rather than in terms of the calendar year. The choice of this period is indicated by another consideration. It is an implicit dictum of democratic socialism that Government should play a dynamic and leading role in national investment. The Short-Term Programme has therefore been drawn up in terms of budget years and not calendar years. It may be mentioned that the plans of most countries of the region also follow fiscal years.

CHAPTER 3

THE GENERAL FEATURES OF THE PROGRAMME

Objectives and Targets

The Short-Term Programme is a part of a long-term plan to raise the living standards of the people. The best way of doing it is by increasing production and real income per capita, increasing employment and reducing disparities in the distribution of income. The Short-Term Programme seeks to achieve all these objectives, but in differing degrees. Subsidies, transfer payments and the provision of free services in the form of free education, health services, etc., out of tax revenue redistribute incomes in favour of lower income groups and reduce inequality in the distribution of real income. The short-term plan places the major emphasis on increasing production and raising per capita real incomes.

It has as its minimum target the raising of per capita income by 2 per cent annually. Between 1957 and 1961 the Gross Domestic Product increased at the rate of 3.8 per cent. per annum, while population grew at the rate of 2.8 per cent. The yearly growth in per capita real income was thus only one per cent. This rate of progress is too slow; at this rate it would require 70 years to double the per capita income of the people of this country. But a much higher rate of growth would be impracticable. Taking into consideration various factors such as availability of resources, the capacity of the economy to absorb planned investments and the time required for the economy to grow, a rate of growth of 2 per cent. per capital real income in the next three years would be possible. This means that, with population growing at 2.8 per cent. per annum, the Gross Domestic Product should grow at 4.8 per cent. per annum, and income per capita double in 35 years.

A high rate of growth can be achieved not only by investing a fair proportion of the increase in income, but also by getting the most out of investment. Increases in productivity alone can raise output even if investment rises slowly. As in the case of advanced countries, the development of the economy of Ceylon can be greatly assisted by raising productivity in all sectors. A rise in investment accompanied by increases in productivity can sustain a growth rate of Gross Domestic Product higher than 4.8 per cent. as soon as the period of adjustment and efficient allocation of resources is over.

The Programme has as its target a growth rate of 4.8 per cent. in Gross Domestic Product. Whether this rate will be realised depends, among other things, on the restraints, adjustments and efforts that would be made. The rate is the minimum required to boost the economy to a level at which the attainment of a higher rate becomes easier. The estimated levels of Gross National Product and of expenditure as well as their composition are shown in the following Table:—

Gross National Product and its Components

	1961-62	1962-63	1963-64
(*a*) Aggregate Supply	8,355	8,673	9,001
1. Gross Domestic Product	6,340	6,640	6,960
2. Imports of Goods and Services	2,015	2,033	2,041
(*b*) Aggregate Demand	8,355	8,673	9,001
1. Private Consumption	4,434	4,614	4,825
2. Government Consumption	908	936	960
3. Private Investment	450	463	495
4. Public Investment	635	680	690
5. Exports of Goods and Services	1,908	1,978	2,031

In the above Table, aggregate demand is taken as the sum total of all consumption and investment expenditures and export of goods and services. Aggregate supply is made up of Gross Domestic Product and import of goods and services.

This Table indicates that, out of an increase in Gross Domestic Product of Rs. 620 million during the three-year period, nearly 16 per cent. is allocated to investment. The public sector which includes public corporations, is expected to contribute 55 per cent. to the increase of total investment. Private consumption is estimated to absorb 60 per cent. of the rise in incomes, while government consumption will account for about 8 per cent. The remaining 10 per cent. would be devoted to the expansion of exports.

The overall investment requirements of the public and private sectors have been based on a capital output ratio of 3.5 which has been actually observed.

The ratio of capital accumulation assumed in the Programme requires a higher rate of savings and more restraints on consumption than those to which we have been accustomed. To raise living standards in the future requires extra sacrifices and efforts in the present. During the period of the Short-Term Implementation Programme, population is expected to grow at the annual rate of 2.8 per cent. Just to maintain the present standard, aggregate private consumption must increase by this percentage at least. As a result of the rise of income per capita and changes in the pattern of distribution, there is likely to be a further increase in consumption. Indeed, if no restrains are placed on consumption, it is likely to grow at a faster rate than population. It should, however, be noted that no reduction in consumption per head is proposed; the level of consumption per capita will actually rise. The reduction is only in the marginal rate of consumption from about 84 per cent. to about 62 per cent. That is to say, if the consumer spent Rs. 84 out of an increase of Rs. 100 he will now be expected to spend only Rs. 62 out of this increase. Such a scheme is necessary in order to make larger resources available for investment so that the population can achieve an increasing level of income and consumption.

In this programme great emphasis is placed on public investment in view of the role it can play in raising income, employment and the standard of living. The required finance will have to be obtained through various measures. This would be a difficult task in the present conditions of slow growth. But even when the economy has grown, and there is a tendency for public revenue to increase with the existing tax structure, the increase may not be sufficient to meet fully the growing needs of the Government. There is, therefore, the need for a periodic review of the public finances to adjust it to the requirements of a growing economy.

Resources

In assessing the resources that will be made available for implementation of this programme it is necessary to have a clear picture of the overall balance. Earlier in these pages the national income aggregates and their components were stated.

Increased consumption has to be met out of domestic production and out of imports. A good proportion of the increased demand for consumption goods is likely to be passed on to imports. During the past five years, however, our import capacity has been lower than the actual amount of imports, and the Government had to restrict imports of luxury and semi-luxury consumer goods to correct this situation. The aim now is to achieve a balanced current account while stimulating domestic production. This will mean that while imports of consumer goods will rise slowly or even decline, the imports of intermediate and capital goods will rise at a faster rate than previously.

A rise in income resulting from economic development produces a change in the pattern of consumption and in the structure of demand. As income rises, the proportion of expenditure spent on food and other essential consumer goods falls while that on luxuries and semi-luxuries rises. The production for the internal market has to take account of such expected changes. However, it is assumed here that within this three-year period no substantial change in the pattern of aggregate demand will take place.

Government Revenue and Expenditure

The forecasts of revenue and expenditure estimates of the Government for the period 1961-62 to 1963-64 are given in the following Table:—

(Rs. Million)

	1961-62	1962-63	1963-64
Revenue	1,632	1,666	1,675
Recurrent Expenditure	1,681	1,715	1,775
Capital Expenditure	475	554	590

The revenue estimate for 1961-62 includes an amount of Rs. 20 million, on account of flood relief, transferred to revenue from deposit account. The estimates of recurrent expenditure for 1962-63 and 1963-64 are provisional and are likely to be revised. The supplementary estimates that may come up later are not provided for in these forecasts. The capital expenditure figure given for 1963-64 is tentative.

The capital budget of the government in three years, required to give a growth rate of 2 per cent. per annum, is estimated as follows:—

1961-62	Rs. 464 million
1962-63	Rs. 499 million
1963-64	Rs. 540 million

The capital budgets for 1961-62 and 1962-63 have been estimated at a higher level than those given above. Similarly the capital budget for 1963-64 has been tentatively estimated at a higher level than the estimate of Rs. 540 million given above. It should be noted that the estimates given above are the minimum levels below which the capital budgets should not fall. As has been done for the years 1961-62 and 1962-63, the Government intends to channel more funds into investments.

The strategy of development adopted in this programme aims at reducing the capital output ratio. It may be possible to cut down the effective capital output ratio at least by 1963-64.

There are various sources from which the public sector investment programme would be financed. The following Table sets them out for the next three years :—

Sources of Finance—Public Sector Investment

	(*Rs. Million*)		
	1961–62	1962–63	1963-64
1. Surplus or Deficit of Revenue over recurrent expenditure (excluding capital maintenance allowances)	-19	+1	-50
2. National Development Tax	25	25	25
3. Domestic Borrowing from non-bank sources	150	175	180
4. Self-financing by Corporations and receipts from tea cess, &c.	19	41	45
5. Capital Maintenance met out of Current Revenue of the Central Government	75	75	75
6. Foreign Aid	117	129	130
7. Total Resources available	367	446	405
8. Total Resources required	635	680	690
9. The Uncovered Gap	268	234	285

In arriving at the surplus or deficit of revenue over recurrent expenditure, transfer items, national development tax and capital maintenance allowances have been treated separately. It was mentioned earlier that the revenue estimate for 1961-62 includes a transfer item amounting to Rs. 20 million. This has been excluded. The National Development Tax has been treated as a source of finance for capital expenditure. Since public sector investment estimates are on a gross basis, capital maintenance allowances have been also treated as a source of finance for capital expenditure.

Domestic Borrowing—Non-Bank Sources

The non-bank sources are expected to contribute a large proportion of the finances required for meeting capital expenditures in the public sector. These finances are to come from small savings, provident funds, life insurance business and from the undistributed profits of the corporate sector.

The Government will have then to rely greatly on voluntary savings. If these are not forthcoming in sufficient volume, it will have to resort to higher taxation and/or deficit financing and forced saving.

There are two broad ways by which voluntary savings can be increased and tapped by the Government. The first is to subtract from the income of groups with rising incomes. Secondly, to impose restrictions that will reduce expenditure on consumption goods. A part of this amount would be available for the Government to borrow.

Small savings now flow to the Government through the Ceylon Savings Bank, Post Office Savings Bank and the Ceylon Savings Certificates. The Bank of Ceylon, Peoples Bank and the Life Insurance Corporation also have arrangements to mobilise small savings. It should be possible for these institutions working in co-operation with one another to raise the rate of small savings made by the household sector to a higher level.

Other forms of savings such as savings through the purchase of life insurance certificates, provident fund balances and a portion of the savings of the corporate sector are expected to be mobilised for financing a portion of the capital expenditures. The Employees' Provident Fund and other approved provident funds are expected to increase their contributions at an annual rate of 10 per cent. The contribution by provident funds during the last year has been around Rs. 60 million. Life insurance policies between 1957 and 1959 added Rs. 162 million to the savings of the household sector. The Insurance Corporation of Ceylon may not be in a position to make any significant contribution until 1963-64 as it has just commenced business. The non-bank sources are expected to contribute a total of Rs. 150 million, Rs. 175 million and Rs. 180 million during the years 1961-62, 1962-63 and 1963-64. The expected rise in national income and the restrictions on imports are likely to make conditions more favourable for realising the target of borrowing from non-bank sources.

Self-financing by Corporations and Other Receipts

A few public corporations have accumulated surpluses that may be used to finance development projects. The Cement Corporation is expected to provide nearly Rs. 12 million in 1962-63.

The cesses on tea, rubber and coconut exports are not included in the revenue budget. They go into a special fund and are utilised for research, propaganda, restoration and rehabilitation. A larger part of the tea cess is expected to be utilised for rehabilitation programmes in respect of tea.

The amount of foreign aid, in the form of loans and grants, to be received in 1961-62 in terms of agreements already entered into is about Rs. 117 million. Of this amount a major part is allocated to transport and power. The amount of foreign aid expected in 1962-63 and 1963-64 is around Rs. 129 million and Rs. 130 million, respectively.

Capital Maintenance

The estimates of public sector investment are gross in that capital maintenance allowances are included. The Central Government is expected to set aside Rs. 65 million annually for the next three years and this amount will be met out of current revenues. The capital maintenance estimates of public corporations for the next three years are not known. A part of their current earnings, however, is devoted to defray a portion of their capital maintenance expenditures. Some of the corporations such as the Ceylon Transport Board meet their losses out of the depreciation allowances provided. It should however be noted that if the public corporations as a whole show losses after allowing for depreciation the estimates given under this head will either be reduced or even turn out to be a negative source of finance. The uncovered gap would be widened correspondingly.

The uncovered Gap

The excess of public sector investment expenditure over the anticipated finances is defined here as the uncovered gap. The size of the gap is certainly large. It is however expected that as economic expansion takes place the money that would be forthcoming in the form of taxation, savings, &c., may rise somewhat and thereby help to reduce the gap. Nevertheless there seems little prospect of covering the gap and government will have to devise ways and means to meet the deficit.

The Programme and the Foreign Balance

In an import-export economy like Ceylon, the implementation of a programme of rapid economic development imposes a strain on the balance of payments. Directly, it results in an increase in the import of investment goods. Indirectly, the rise in incomes coupled with a high marginal propensity to import stimulates the demand for additional consumer and intermediate goods.

The pressure on the payments position has to be judged in relation to the level of external reserves at the time of launching the programme. To the extent that there are sufficient foreign reserves, the pressure can be absorbed at least for some time without undue strain. Unfortunately, Ceylon is not in that position at the present time.

Traditionally, our balance of payments has shown a surplus in the merchandise account and a sizeable deficit in the current invisibles account. In recent years, however, we have experienced the unusual phenomenon of a continuing deficit in both merchandise and invisibles account. The Table below shows the deficits on merchandise, current invisibles and total current account for the years 1957-1961:

	(Rupees Million)				
	1957	1958	1959	1960	1961*
Merchandise					
Exports f.o.b.	1,669	1,624	1,773	1,796	1,707
Imports c.i.f.	−1,764	−1,713	−1,956	−1,999	−1,791
Trade balance	−95	−89	−183	−203	−84
Current invisibles	−100	−64	−25	−17	−3
Total current a/c	−195	−153	−208	−220	−87

*Revised.

Source : Central Bank of Ceylon.

This Table reveals that the deficit on invisibles has been progressively reduced from Rs. 100 million in 1957 to the low level of Rs. 3 mililon in 1961. A major reason for this is the increase in receipts under Official Donations from Rs. 17 million in 1955 to an estimated Rs. 50 million in 1961. In 1960 and more intensively in 1961, the Government introduced measures designed to minimise the loss of foreign exchange. As a result the deficit on the merchandise account was reduced from Rs. 203 million in 1960 to Rs. 84 million in 1961. Further, on private remittances and migrants transfers alone, the net outflow which had been Rs. 56 million in 1959 was reduced to Rs. 29 million in 1961. These improvements notwithstanding, our cumulative current account deficit for last five years was of the order of Rs. 863 million, due mainly to the adverse balance on merchandise account which amounted to Rs. 654 million in the same period.

As a result of these heavy deficits in the current account, Ceylon's external assets recorded a fall of Rs. 744.0 million during the period 1957 to 1961. External assets fell from Rs. 1,275.7 million at the end of 1956 to Rs. 531.7 million at the end of 1961. The fall in 1961 was only Rs. 9.6 million. This improvement is partly offset by the extent to which foreign borrowing, including a drawing from the International Monetary Fund, had to be restored to. Further deterioration early in 1962 led to a second drawing from the Fund in February.

In May, 1962, foreign exchange reserves stood at Rs. 572.4 million or about 28 per cent. of the total import payments (including current invisibles) during calendar year, 1961. This level is admittedly low when viewed against the increase in development imports implicit in the present programme. The position is even worse when we take into consideration our obligation to repay the drawings from the Fund totalling Rs. 107.8 million within a period of 3 to 5 years.

The Balance of Payments forecast 1961/62-1963/64

The main purpose of this analysis is to indicate broadly the likely trends in the payments situation. The statistics presented here will need periodical revision and refinement in the light of changes in the future for which adequate allowance cannot be made at the present time.

The forecast of exports covers all domestic exports. Re-exports of bunkers and ships' stores are reflected under current invisibles in accordance with standard international procedure as transportation and insurance receipts. Direct projections have been made in the case of 3 categories of imports, viz., essential food, investment goods and intermediate goods. The first category represents items vital for the life and sustenance of the community while the second and the third category represent imports necessary for the success of the programme. The projections for investment goods are based on the investment programme. The assumptions fo intermediate goods allow for maintenance imports but the extent of th information presently available does not permit of a separate forecas Imports of " other consumption goods " were projected on the basis o existing import restrictions.

Current invisibles, exclusive of official donations, are incorporated i the forecast on a gross basis. It will be seen that the net outgo on thi item is assumed to be more or less stable up to 1964. This is based on th general assumption that exchange restrictions will be maintained at thei present level. Projections for loan repayments are only in respect o foreign loans already drawn upon.

The balance of payments forecast for 1961-62 to 1963-64 is given in th Table below :

	1961/62		1962/63		1963/64	
	Cr.	*Dr.*	*Cr.*	*Dr.*	*Cr.*	*Dr*
Merchandise						
Exports f.o.b.	1,672		1,723		1,756	
Imports c.i.f.	—	1,729	—	1,892	—	1,859
(*a*) Basic Food	—	644	—	638	—	636
(*b*) Investment goods	—	428	—	456	—	468
(*c*) Intermediate goods	—	350	—	365	—	385
(*d*) Other consumption goods	—	370	—	370	—	370
Trade Balance	—	120	—	106	—	103
Services	217	243	217	244	217	243
Private remittances and migrants' transfers	8	38	8	38	8	38
Services and Private donations (net)	—	56	—	57	—	58
Current account deficit		176		163		161
Repayment of foreign loans		7		6		*10
Foreign Exchange Gap		183		169		171

* Excludes the sterling loan of Rs. 60 million due for repayment in July, 1964, which will be met out of Sinking Funds earmarked for the purpose.

What emerges from the above table is that the deficit on external accounts up to the end of 1963-64 will amount to Rs. 523 million. Receipts of gifts in kind in recent years have accrued at approximately Rs. 50 million per year. Assuming the same rate of inflow on this account for the period 1961-62 to 1963-64 (for which positive action by the Government is required), the foreign exchange shortfall is reduced by Rs. 150 million to

Rs. 373 million. During the first half of the present financial year, Rs. 53.8 million have been drawn from the IMF and Rs. 22.9 million on account of long-term foreign loans. These two inflows together reduce the foreign exchange gap by a further Rs. 77 million to Rs. 296 million.

The results emerging from the above analysis are of particular significance as far as the foreign exchange position over the next few years is concerned. For the year 1961-62 alone, the foreign exchange gap is seen to be of the order of Rs. 183 million. Allowing for Rs. 77 million already received from international institutions and long-term foreign loans and the estimated Rs. 50 million on official donations, a sum of Rs. 56 million has still to be financed from other sources. A part of this shortfall could be met out of foreign assistance obtainable to finance the foreign exchange component of specific projects, leaving the balance as the share of foreign costs to be met by drawing on our own reserves. It is therefore clear that our reserves are likely to decline and will come under pressure in the period ahead. The position will be even more difficult in 1962-63 and 1963-64, both because development expenditure will itself gather momentum and temporary relief through short-term recourse to international institutions on balance of payments considerations will be increasingly difficult to negotiate. We are thus faced with the prospect of a shortage of foreign exchange which is likely to constitute a serious bottleneck in the period of implementing the Short-Term Programme.

CHAPTER 4

THE PATTERN OF DEVELOIMENT

The pattern of development outlined in this Chaper has been prepared in the context of the Ten-year Plan objectives and pesent economic horizons as detailed in the earlier chapters. It is baed upon the Sectoral Programmes detailed in other chapters.

The purpose of this Chapter is—

(a) to describe briefly the manner in which th Programme has been built up ;

(b) to outline the broad features of the Progrmme as they should be and compare these with the features as they have actually emerged ; and

(c) to suggest overall policies, organisations an institutions which will ensure progressive movement towards Pan objectives.

The method of construction of the Programme

For the purpose of building up this Programme the economy has been broadly divided into two parts—Private and Pulic. The private sector is again sub-divided into two sections, viz., the eganised sector and the large area covering the major part of agriculture small-scale and cottage industries, transport and trade, and services in the private sector in regard to which it is difficult, in the present stateof information, to build up Programmes on the basis of investment scheules. In respect of the scale of the private sector, reliance has been plaed on projections made on the base year data and the volume of investent that is reasonably expected to go into this sector. In the case of sme activities like small-scale and cottage industries and road haulage, crtain additional checks were possible as a result of preliminary findingsof surveys initiated by the Department of National Planning and later adpted and carried out by the respective Departments concerned in consultition with the Department of National Planning.

As regards investment in the public sector in 961/62 the provisions follow those contained in the current year's Bdget Estimates. They have been finalised in close consultation with the)epartment of National Planning. In regard to the private sector, the estiates of current investment have been utilised as the base year figures (the Programme. For the yea s 1962/63 and 1963/64, a more elaborat procedure has been adopted In the case of the public sector and th industrial part of the private sector, questionnaires were issued to elicit information. They were preceded by a listing of the broad criteria relevant to building up of projects and programmes by Departments. The programmes received from them were thereafter examined in the light of projections of overall resource availability and the required minimum growth rate. The Sectoral Programmes in the final version are, therefore, the result of these overall limitations as well as the availability of projects and programmes of the right type and magnitude.

It would be clear that, in these circumstances, it was not possible fully to appraise all projects with a view to establishing priorities and replacing some by others from a ready-made schedule. In order to do this, it is necessary to have pre-planning of a type which is one of the results that should emerge from this Short-Term Programme.

External circumstances have changed for the worse since the Ten-Year Plan was prepared. The resources available to us are less than expected. In the circumstances, a new-strategy, the need for which was not apparent when the Plan was made, has become necessary.

Criteria and broad features of the Programme

The following criteria have been used to formulate the Programme and select the projects that make it up :—

(*a*) significance of a project for economic development ;

(*b*) gestation period or time taken for an investment to come into production ;

(*c*) capital-output ratio at capacity output ;

(*d*) capital investment per worker at capacity output ;

(*e*) ratio of foreign exchange savings to investment ;

(*f*) profit ratio at capacity output ; and

(*g*) social significance of the investment.

These criteria are all important ; but their relative importance varies from economy to economy, or from one stage of an economy to another. Besides, different projects may satisfy them in different degrees. Some projects may be labour-intensive, but their profit ratio may be low. Others may have high capacity for earning profit, but they may be capital intensive and make large demands on the limited capital resources of a country. Still others may be highly significant from the point of view of social welfare, but their contribution to economic development may be small. In these circumstances, it is necessary not only to select the criteria for building a programme, but also to decide on their relative importance. This can be done meaningfully by reference to the contemporary situation of the economy and its primary needs.

The primary need of the economy of Ceylon today is to use its limited capital and foreign exchange resources to achieve as rapid an increase of the national output as possible. This will provide the basis for further development and offset possible inflationary pressures that the process of development may exert. Other needs have to be treated as subordinate to this primary requirement.

Judged in the light of this assessment, some items of expenditure and investment have a rather low significance. To this category belongs the current and the non-developmental capital expenditures of the Government. These should be kept to the minimum. It is necessary for a similar reason to contain expenditure on social services. Historically, the expansion of social services has helped considerably to meet the pressure of population and to relieve unemployment and urban congestion. Indeed, Ceylon is ahead of many countries of the region in respect of social services. But this leading position cannot continue to be maintained consistently with the requirements of rapid economic development.

In order to achieve a rapid rise of the national output and to check inflationary pressure, the Programme has placed stress on the expansion of consumer goods rather than of producer goods. In recent years, the inflationary pressure has been met in large part, by the import of goods from abroad and by drawing upon stocks at home. But these outlets are less open than before.

For the same reasons, the Programme emphasises the necessity of utilising unused capacity, wherever it exists, before investment is made in new projects. Obviously, the former demands smaller resources and leads to faster output of final commodities than the latter. On this ground there is a strong case, for example, for utilising the capacity of existing sugar factories more fully before setting up new projects, and for the intensive cultivation of land already under the plough as against investment on new irrigation schemes and the opening up of new lands. Again, the Programme underlines the importance of completing projects that are already under way and of promoting those which are complementary to existing industries or which can utilise their by-products and facilities. Such industries should have preference over others which produce non-complementary goods and services. A good example would be investment for the utilisation of bagasse and molasses which are turned out as by-products by the Sugar factories.

The theme of the Programme highlights the need for projects with low capital output ratios and short gestation periods, and wherever choice is available, of labour intensive techniques. It seeks not only to economise the use of capital but also to enlarge the scope for the employment of labour. The economy has a limited quantity of the former but a relatively abundant supply of the latter. In this connection the Programme also underlines the need for the maximum use, wherever possible, of "self-help" in investment projects.

The deterioration of our foreign exchange position has aggravated our difficulties. Hence projects which promote the production of import substitutes at home or increase our exports and save or add to our foreign exchange resources, should have preference over others which tend to use up these resources. Further, attempts should be made to secure more foreign aid and provide for its maximum utilization.

The Programme implies only a shift of emphasis from long-term and capital-intensive projects to short-term and labour-intensive ones. It does not recommend a concentration on the latter to the exclusion of the former. Indeed, such a change-over would not be feasible, even if it were desirable. The Programme does not start with a clean slate. The economy has been developing for some time. Many projects have come into existence and some are in operation. There are past commitments of some capital-intensive projects which are in the process of construction. These projects must be completed. They can be brought to the stage of production in a short period by a further addition of investment. Besides, concentration on short-term projects alone, even if it were possible, is not desirable from the point of view of the future growth of the economy. Some time-consuming capital-intensive projects form, so to say, the foundation of the investment structure. They must be established and work on them started at an early stage so that they may produce in time the goods and services which quickly maturing projects with relatively low capital-output ratios will need. A short-term programme must contain some elements of the long-term, if the growth of the economy is to be continuous.

Thus, past commitments and the logic of development set certain limits to the extent to which a new pattern of investment can deviate from the existing structure of the economy or ignore its long-term needs. However, these limits are not rigid and it is possible to shift the emphasis in a new investment programme in some measure. Some old commitments may be nominal: only funds may have been set aside for them or just the first steps taken to organise them. Little or no money may have been actually spent. If the economy is short of investible funds, it may be proper to put such projects which are not basic into cold storage for some time and release resources for other purposes. Again, if foreign exchange is available, a country may find it profitable to import the products of some capital intensive industries rather than try to set up the industries at home. Indeed, this international division of labour may be unavoidable for a small country. The optimum scale of a capital-intensive industry, e.g., Iron and Steel, may be large relatively to the aggregate demand for its products by other industries in the country and it may be difficult for some time to sell them abroad in competition with foreign industries. Finally, in some industries, as has been noted, there may be some choice regarding the technique of production that can be used. In such instances, labour-intensive techniques may be chosen to spare capital for use elsewhere.

To carry out the new strategy effectively and to achieve the new pattern of investment of the Short-Term Programme, it is necessary, finally, to make some changes in respect of policy, administration and institutions. This is dealt with elsewhere.

The Short-Term Programme is examined below in the light of the considerations set out in the preceding paragraphs. The Table on page 67 sets down, by broad sectors, the pattern of investment.

The basic features of the Programme and, in some ways, the necessary directions of future change, are evident from this Table. An examination of these figures is best done by arranging the sectoral groups into two broad categories: first, the social services and transport sectors ; second, the other sectors of export agriculture, non-export agriculture, fisheries, industry and power. Achievement in the past was, by and large, satisfactory in respect of the former group particularly. But in large areas of the second group it was low. There is more than one reason for this. For instance, the former group represents those areas which past policy had generally supported strongly through public expenditure. Since they were also fields in which there had been constructional competence and familiarity for a long time, the problems of organising for investment were much less difficult. On the other hand, these were precisely the areas in which—for reasons based on the logic of economic growth, and because of the high investment that had already taken place relatively to other countries of the region—further investment had to be held down to release the existing limited resources for other productive sectors. However, the change suggested in the Programme is not drastic.

In the other group of sectors it will be noticed that, where there had been earlier experience, the performance was not low. This applies particularly to the export groups. In fisheries and industry, the investment programme is such that considerable know-how as well as organisation is necessary before expenditure of the magnitudes proposed could be incurred. There are, of course, policy and other matters which are also relevant. These will be discussed later, but the significant contributory factor has been lack of experience.

Steps are being taken by appropriate Ministries and Departments to improve performance in fisheries and industry and to utilise existing capacity in the agricultural sector. The results of this effort will appear more fully in the final year of the Programme.

A noteworthy feature of the phasing of investment in the Ten-Year Plan is that the percentage of resources devoted to agriculture and fisheries gradually drops while that devoted to industry and power rises, with the latter overtaking the former sector in 1962. As economic development proceeds and the income per capita rises in a country, the demand for non-agricultural commodities and services rises faster than that for agricultural goods. In consequence, the proportion of total investment that is allocated to industry and power exceeds at some stage the proportion devoted to agriculture. This should be borne in mind in building up programmes. While attention has been focussed on aspects of further change in the future, it is necessary to emphasise that the present programme itself carries a clear development emphasis.

The details of the projects and programmes will be discussed in the sectoral chapters that follow. The projects which make up the Short-Term Programme will be discussed in later chapters. It is necessary at this stage to set down the values of the various criteria that have been used in selecting projects and building up programmes. The values have been estimated for capacity output. The Table on page 67 sets out the sector picture as brought out by the indicators referred to earlier, for judging their characteristics and their relative efficiency to meet the demands of development. The selected ratios which have been used to construct the picture of the programme have been estimated at capacity output. Wherever changes are obviously expected, such as in the phasing of Fertilizer and Refinery investments for 1963-64, the relevant indicators have been computed within existing possibilities.

Gestation Period

The gestation period naturally varies widely between different fields of development. However, in the productive sectors, in particulars, it would be advantageous to development if these periods could be shortened. This can be done only in two ways. One is by examining constantly ways and means of shortening the construction period, for example, of industrial projects, irrigation and power schemes. The other is by changing the composition of investment in favour of projects that have inherently shorter gestation periods. This cannot be done in such cases as plantation crops and Power. But it can be achieved in some measure by shifting emphasis to production of consumer goods in industry and by giving more emphasis to intensive utilisation of land under use at the expense of slowing down the rate of development of new areas. If the Gross Domestic Product at this stage is quickly stepped up, we should ultimately have greater capacity to undertake investment projects with long periods of gestation.

Capital Output Ratio

Here again, there are wide variations between different sectors and subsectors. Our overall capital output ratio is somewhat high. It is also higher than in most other countries of South East Asia. We have suggested shifts in investment composition and fuller utilisation of present under-utilised capacity to bring down the overall ratio. The change in the ratio would materialise more fully in the last year of this Programme and thereafter. Pre-planning work in this direction is already under way.

Capital Labour Ratio

In respect of this ratio, too, there are variations. Changes in investment composition may have to be made to meet the employment objective. This should, of course, be done with as small a sacrifice as possible of the objectives of increased output and balanced foreign account. A subsequent chapter on the manpower situation and prospects indicates the need for further change in the pattern of investment if the employment problem is to be satisfactorily met. Briefly, substantial addition to employment, cannot be expected from investments that have to be capital intensive, e.g., Power, certain types of port construction, large industry, and certain types of irrigation work. For this we have to rely largely on the rapid expansion of certain agricultural activities, fisheries, and small-scale industry. Moreover, in a developing economy a considerable proportion of the work force is employed in transport, construction, and other services as compared with industry and power, &c. The growth of those sectors will, in the short run, supplement employment opportunities in agriculture and industry. But since the volume of activity in the former depends upon the level of production in the latter, it is not possible to develop the ancillary services, beyond a point, without a corresponding expansion of output in the areas of direct production. The slower rate of growth of the economy will lead to lower rate of absorption of labour, but employment will expand as soon as we succeed in increasing the output of goods and services. Meanwhile, efforts should be made to use existing capacity to the maximum extent feasible both in agriculture and industry and to increase investment in fields that are appropriate to small-scale and cottage industries development.

Capital Foreign Exchange Savings and Capital Foreign Aid Ratios

It would be evident from the Tables presented on pages 68 and 69 that the foreign exchange savings potential of the programme would not be high at this stage of development. We should be able to reach the savings ratio in respect of productive investments but in respect of non-productive projects or programmes it would naturally be preferable to give priority to projects with a low proportion of foreign cost, unless of course foreign aid is specifically available for them. This objective has been kept in mind by various Departments and Ministries as far as possible. The arrangements for lines of foreign credit take time and it is expected that the final year of the programme would show an improvement upon the present position. In regard to the productive investments, the exchange savings ratio in the Table relates to capacity output. But before capacity output is reached the position may be much less advantageous. It is absolutely essential to have policies and measures which will ensure that capacity output is attained within target periods.

There is also another general feature of the development programme which is relevant to the process of growth from a stage of under-development which cannot be ignored. A policy of import substitution does not enable an immediate substitution of imported commodities by local production. Inputs not only in the form of capital but particularly in the form of materials essential to production may have to be imported in large quantities for short or long periods of time. This means that, at least in the initial stages of growth, the total requirement of foreign exchange resources will be even greater than before the start. Since the growth of domestic production is, however, the ultimate answer to the long-term foreign exchange problem, this process has to be gone through. It is important, however, that in the process, we should also progressively increase the proportion of domestic raw materials and other resources that are required to manufacture import substitutes. Decisions to this end should be made before investments are undertaken. The fact that the foreign exchange situation is considerably strained by this burden of Maintenance Imports need not, therefore, be considered a ground for anxiety although there must be conscious policy orientation to meet it. This is part of the government policy for the Programme, whether in the public sector (e.g., cane and cotton) or in the private sector (e.g., manufacture of components). One significant way in which this burden can be relieved at the earlier stages is by arranging for foreign aid to cover a high content of capital as well as intermediate goods required. This, too, has been kept in view as far as possible in the present Programme. Our performance should improve in later years with the smoother functioning of programming techniques in various departments and agencies engaged in investment activity. An essential feature in stepping up the quantum of foreign aid is, as already emphasised, advance programming of projects and adequate timely identification of the foreign cost components, their nature, and potential avenues of foreign aid.

The strain caused by maintenance imports can be eased in two ways. Either actual inputs of raw material and intermediate goods demanded by the new industries may be made available or aid may be obtained to meet the requirements of basic imports, in which most of the food items fall, so as to permit existing import capacity to be partially diverted to import of raw materials, in addition to that of the basic capital goods. Commodity aid in this sense has a parallel in certain current aid programmes like those under the U. S. P. L. 480 arrangements. It would be useful to put such programmes in their proper perspective as outlined above so that the best results may be obtained. The data relating to volume and types of foreign aid are set down in another chapter. It will be evident from that analysis that while a foreign exchange budget has been worked out, it is important to emphasise the need for additional aid to meet the potential inflationary impact of the development programme.

We can maximise our external resources by earning more foreign exchange and by saving it. The programmes for the Export Sector in agriculture and for industries like Tourism are in pursuance of this objective.

In this connection there is also the possibility of maximising foreign aid on the capital costs of projects and programmes. As is evident from the relevant column of the earlier Table, there is wide variation in the amount of aid that has gone into the various items. This is partly natural but it will appear that with further considerable improvement it is possible to achieve a favourable ratio of aid to total cost. A fair measure of pre-planning is required in this field, and the various measures taken by Government to improve planning at all levels are bound to have their favourable impact in future years.

Capital Profit Ratio

Economic development in all sectors necessarily involves teething troubles which are reflected particularly in very low rates of profit or even losses. The point for study, therefore, should be not merely the level of profits from which we start, but also the efforts being made to move up from that level. The ratios given in the Table being for capacity output do not reflect the position in the transitory period when things are likely to be worse. Since re-investment surpluses are basic to any development plan, the profit ratio assumes great significance. In regard to the ratio at capacity output, while there is variation between the items set down in the Table, the focus should be on the time taken to reach these goals. The sectoral chapters indicate the current profit position of the various projects and also the problems specific or otherwise that have to be overcome for these to reach optimum capacity. An attempt will be made later in this chapter to formulate some of the general considerations that are relevant to a more rapid growth rate and, therefore, a better profit rate as well.

Maturity Stage

Here, again, one of the earlier difficulties was the inability to bring projects to maturity in time. This has naturally resulted in slower investment and also in a certain measure of under-spending of provisions made.

The phasings as now programmed are more realistic. This has indeed been one of the major improvements made recently and is bound to show results in future years. To the extent that certain sectoral programmes are smaller than what may be desirable, they reflect the trend towards avoiding under-spending. Concurrently, maximum emphasis has been placed on stepping up the organisational and other preliminary work that precedes the actual utilisation of investment funds on a project or programme.

Social Factors

Some investments are necessary although they do not directly increase output or profits or save foreign exchange. The most important among these are the social service group of investments which recommend themselves not only on grounds of social necessity but also as part of the basic infrastructure for efficient production activities in other fields. In regard to education, for example, it is now clearly realised that it is much more than a social necessity or an indirectly productive investment. Elementary education is the primary base for productivity of labour. We have provided for it adequately in this Programme in spite of limited resources. It is however, necessary, to undertake certain checks on these programmes without affecting the people adversely. Ultimately, the major harmful effect of overinvestment in these fields at the expense of directly productive investments will be on the capacity to make provision for these services. On the other hand, there is a paramount need for stepping up very rapidly the growth of technical education in all its forms. Attention has been given to this problem in this Programme and it is expected to increase further the rate of progress in future years.

Factors of Relevance to a more Rapid Growth Rate

(i) *Investment and Resources Aspects*

It would be evident from the foregoing that while certain favourable features in investment trends are already visible, achievements in regard to output, employment and profit still leave room for further improvement. Since investments that are essentially capital intensive cannot be modified unduly for the sake of employment, the employment objective has to be sought in the short run by a rapid increase of the small-scale industries and an intensified agricultural programme. It is worth repeating also that in the long run it is increased output and sustained re-investment of the profits of earlier investments that can, both directly and indirectly through expansion of tertiary services of transport and trade, etc., meet the employment problem. For rapid growth, we should, as a matter of immediate priority, concentrate on all methods of raising output and profit. The approach to this is two-fold: one is investment strategy for maximising production of consumer goods and for greater concentration on quick yielding investments. This approach has been adopted by the Programme and the results should become evident in future. The other is the actual utilisation of all investments. This approach has already been discussed and merits further clarification.

Economic growth consists in creating capacity for output in the first instance and thereafter utilising that capacity to increase output. Where capacity already exists, e.g., asweddumised lands, areas under irrigation, factories, or schools and other institutions—the additional capital needed to utilise this capacity for increasing output is very much less than is required to achieve the same output by creating new capacity, e.g., opening up of new land, establishing new factories, and so on. In other words, the additional capital-output ratio in the former case is much smaller than in the latter. It is, therefore, imperative that all unutilised or excess capacity should be identified and exploited to the fullest. An expanding economy requires expansion of capacity sooner or later. This may call for some measures of simultaneous investment in projects with high capital output ratios. When funds are in short supply, our first concern in allocating them should be to see that existing capacity is as fully employed as possible. We should provide more for intensive agriculture and animal husbandry on already available lands ; we should utilise as much as we can the capacity in existing industries ; we should give priority to investment in industries which use the by-products of existing industries ; we should co-ordinate various forms of transport, etc. Attention has already been drawn to the policy and organisational approaches necessary to a more emphatic shift in this direction. The results of this shift may not be fully evident in the second year of the Programme, but would be manifest in the third year and afterwards.

Another important aspect of growth relates to technical and scientific knowledge about physical resources and utilisation possibilities. We are in this regard handicapped by an inadequate use of available knowledge, as for instance, about new paddy strains, and an inadequate knowledge of how to use raw materials and by-products for economic production. It is by the use of scientific and technical know-how that we can, within the framework of our economic policy, and the limits of our financial resources, best develop our natural resources and achieve increased output and rapid growth. Such studies bearing on our natural resources in various fields are essential for planning and implementation. Awareness of this fact is reflected in several steps taken by Government in promoting closer liaison of agricultural research with investment policy and establishing the Small Industry Service Institute. Steps are also being taken to carry out feasibility studies of industrial projects particularly in the use of complexes like brine, sugar, and petro chemicals. It is also proposed to step up the surveys of natural and mineral resources and work out their industrial possibilities. This would help the preparation of a better plan and lead to fuller utilisation of resources in industrial and other spheres.

A further question relevant to more rapid growth to which attention has been given, is the increasing of skills and training of labour. The economy's capacity to absorb additional financial capital, whether local or foreign, is limited by the availability of labour competent to utilise capital equipment efficiently. The volume of physical capital that may be effectively used, is therefore, in part, dependent on the investment in human capital. For rapid investment growth the one cannot lag behind the other. Provision has therefore been made for this requirement.

Finally the scale of our industry is limited by the extent of our domestic market, and this limits the ability to reduce costs and earn large profits. It should, however, be possible for some of our industries to produce for the foreign market as well as the domestic. If even a few industries could do this, they would be able to achieve cheap output and large re-investment surpluses for the economy. It is this "Leading Sector" idea which has of late been taken up under the theme of Regional Economic Co-operation among various countries. Some industries like Tyre and Tube, for instance, can, under such a scheme, be started on a large scale and produce more cheaply and earn larger profits. The surpluses that would be earned by the total capital invested would be larger than if it were confined only to industries producing for the domestic market. Other countries in the Region will similarly specialise in particular products and industries and get the benefits of large scale production. It is this pattern of mutual advantage as between consenting countries that affords the basis for Regional Economic Co-operation and for the building up of "Leading Sector" industries. The Government supports the Regional Economic Co-operation in principle and is alive to its advantages.

(ii) *Finance and allied issues*

The financing and allied aspects have a close bearing on development. The first relates to finance itself. The financial background of the economy and the resources picture for the Programme have been dealt with elsewhere. So also has been the role of re-investment surpluses in development, which is basic to growth. There are also certain surpluses on government business account which are expected. The growth of agriculture and industry in the private sector is also expected to contribute a major share as re-investments surpluses. All this is possible only if existing investments are utilised to full capacity and profits are maximised. The other aspect of finance is the flow of foreign funds. It is clear from information given elsewhere in this programme that this has been inadequate, measured by the requirements for development. The various steps taken by government, not the least of which is the preparation of this Programme, provide a basis for increasing the volume of foreign finance. This involves co-ordination of measures in a wide field internally as well as externally, ranging from feasibility studies and training programmes to maintenance aid from abroad.

Attention has also been given to the structure of tariffs and subsidies, rates and fares. The series of measures taken last year to impose high tariffs and embargoes on imports has led to decisions by entrepreneurs to promote industrial and other types of investment within the country. In the initial stages of development domestic production will have the disadvantage of higher costs and poorer quality till experience and ability are acquired. The void created by the non-availability of a wide range of commodities hitherto imported has to be filled irrespective of the question of quality.

Subsidies have played a significant role in the development of our economy. The State has extended assistance in the form of grants to public industrial corporations and the Ceylon Transport Board. It has been buying paddy from the producer at prices higher than world market prices and it is supplying to the consumer rice below cost. It has also spent out of public funds large sums on developing new areas for the benefit of colonists for which the latter do not have to pay. It has, in these ways, tried to help the new ventures in the public sector to develop and a large mass of consumers and agricultural producers to maintain and raise their real incomes. And since money for subsidies has to be raised largely by taxation, the two together have brought about a redistribution of income in favour of the low income groups. The burden of subsidies on the state finances is heavy. The Government is considering a number of steps towards increasing efficiency in production and reducing costs.

The question of rates and fares in transport, communications and allied services would fall within this ambit of policy. As has been suggested in the chapter on Transport, the high level of rates and fares in the Railway has tended to keep the system operating below capacity. It may be necessary under specific circumstances to accept the risk of temporarily increased subsidy to the Railway in order to enable it to charge lower and more competitive transport rates. Such a step would need to be preceded by detailed and comprehensive analyses of the rail and road traffic systems in order to ascertain their true costs of carriage. Once this is done and other measures aimed at increased efficiency are taken, the lowering of rates and fares need not necessarily lead to reduced receipts (and increased subsidy) if, in the process, a larger turn-over of traffic would result.

(iii) *Organisational and Policy Aspects*

The several organisational, institutional, and policy approaches relevant to the various problems discussed above are broadly indicated in the ensuing paragraphs.

In order to meet the various problems that are being created by the effort towards greater development, the Government is providing the necessary organisational and institutional framework. What is set down below is only a broad indication of the approach that has been adopted.

Planning Machinery

Since the basis for implementation is sound planning and programming, the crucial parts of the organisation for implementation should be effectively geared to programming. These are the various Ministries, Departments and agencies in the public sector, on the one hand, and the producing units and organisations in the private sector, on the other. Undoubtedly the Department of National Planning has to do the Overall Programming, but effective implementation is not possible in the absence of appropriate machinery. Planning is a process in which an important element is programming at lower levels. With a view to ensuring higher performance all round, the Government has instituted a system of Planning Committees in each Ministry. It would be the function of these Committees to guide Departments and agencies in the preparation of realistic programmes and projects in the wider context of national planning. These Committees should also be responsible for supervision of implementation. In this connection one of the main tasks of the Committees would be to anticipate and locate in advance obstacles to the realisation of targets and help avoid short-falls in performance. Another job would be to institute a system of Progress-control, analyse the reasons behind specific shortfalls and assist in ensuring higher performance in the long run. Planning, Programming, Implementation, Supervision and Progress Control will be thus integrated within each Ministry, with the result that problems which have hitherto been treated mostly in isolation and in an ad hoc manner, would hereafter receive adequate consideration in terms of their relation to overall planning and development.

The above type of organisation corresponds to the vertical aspect of planning. The other is the geographical or horizontal aspect, extending area-wise through the districts down to rural levels. Considerable attention has been given to this. It has also been the subject of recent evaluation by a United Nations team. It is expected shortly to implement this idea and harness more effectively the local resources—physical, human and financial—that are available.

At the higher level of national planning, apart from the departmental organisation that now exists, it is proposed to constitute early a series of Committees, partly to cover the various sectors and partly to co-ordinate overall resources, manpower, raw materials, water, etc. The emphasis given to continuous and co-ordinated investigation of resources through organisations at a sufficiently high level would promote more efficient provision of basic materials necessary for development. Problems such as under-utilisation of capacity, referred to earlier, depend greatly for their solution on co-ordinated study of resource availabilities and technological scientific investigation of their economic applicability. It is proposed to step up resource surveys and research into utilisation of materials, availability of by-products, their use, and other specific problems cropping up in course of production. To this end the potentialities of scientific associations, survey organisations and research institutions will be exploited.

The setting up of this type of machinery will facilitate physical programming to support estimates of expenditure. Insted of regarding these as mere bundles of votes, Ministries and Departments woud have increasingly to base them on the physical requirements of the projects and programmes they cover. The budget classification of 1960-61 into seven main votes has been a step forward in this direction. It is proposed to carry this process further and re-classify, in particular, budget sub-heads so that they may reflect more faithfully the physical requirements of projects and programmes. The promotion of physical programming on these lines would help the evolution of progress control and performance budgeting.

Manpower Utilisation

In order to help meet the employment problem the Government intends, apart from the policy orientation in investment discussed earlier, undertaking a full Manpower study so as to ensure more co-ordinated training and investment programmes. One of the factors that have to be taken into consideration arises out of the shift of emphasis in the budget of certain Departments from employment to output. When monetary provision is made to carry out a programme rather than to keep a certain labour force continuously employed, some of the workers may become surplus. This may happen, for example, in the Railway. One of the objectives of manpower study would be to utilise increasingly such surplus in other projects which are labour absorbing.

A correct wage policy is fundamental to growth. Wage levels should satisfy the requirements of an accepted minimum standard of living. Workers should also share, in some measure at least, in the increase of productivity that will take place during the process of development. It is, however, necessary to reconcile the claims for increased income by workers with the needs of the economy for development. To do this it is essential to reserve a good part of the increased national income resulting from growth of productivity for investment in development. The relevant issues have been dealt with in another section.

Foreign Exchange Resources

In order to place the foreign exchange budget on a realistic basis and to gear it more closely to development, Government has already set up a permanent Import Policy Committee, whose task it is to ensure the best use of foreign exchange earnings. The basis for the work of this Committee would be a foreign exchange budget that would be constantly under review for adjustment to changing circumstances. A special Committee is already working on this.

Public Corporations and Management

The problems of management of Corporations in industry, transport, and so on, have been the subject of examination by the Government. The proposed Public Corporations Bill is one of the measures designed to improve operational efficiency of Corporations.

Private Sector Industry

A continuous review of incentives required to evoke full activity by the private sector in the fields allotted to it is being maintained. This covers all aspects of technical, financial and policy assistance, as well as the facilities for participation by foreign capital and know-how.

Obtaining value for money spent

This is a very wide field and covers the efficiency in constructional works as well as in the operation and administration of government departments and corporations. The Government has already taken steps through an ad hoc Committee and in other ways to examine the costs of construction and operation in various sections, with a view to establishing norms. Large economies are expected to result from these measures.

The constructional aspect of the whole Programme is of crucial importance to all sectors. As will be shown later, the long-term trend of construction shows a steep rise. This is due to the fact that by far the largest single element in any plan of development is construction. Even though the Programme is a modest one, a considerable rise in constructional activity is anticipated in future years. There is in consequence the important problem of organisation in making available in time the required quantities of various skills, material, machinery, equipment, etc. This implies first securing enough of the resources required and secondly distributing them appropriately among the competing fields of investment. Certain large industries like Iron and Steel are expected to be established in the Programme Period. Others like cement would have considerable additions made to them. There will also be a very high investment in Power and activity in the present scale in other programmes such as in Irrigation, Railway, and so on. In the case of Railway, although the total provision is not significantly different from that of previous years, there will be priority investments like the Puttalam Railway. The scale of investment in these sectors would certainly be maintained in 1963-64 perhaps with increases for industries, ports and harbours, fisheries, etc.

Efficient organisation for the supply of materials and skills has, therefore, to be undertaken as an immediate problem quite apart from the relevant sectoral programmes to step up medium and long-term production of raw materials. It is the intention of the Government to set up a permanent high level committee to remove bottlenecks wherever they arise.

Public Sector administration and implementation

In order to ensure maximum flexibility and the best use of personnel resources available to Government in the interests of development, the executive cadres have been reclassified into two distinct services, viz. (i) a service for technical grades and (ii) a unified service for all administrative grades.

Summary

It would be convenient to summarise the major points that are relevant to faster development.

(i) The highest priority has to be assigned to increasing output. This is to be achieved by an increasing emphasis on consumer goods production, by selecting short gestation investments and by maximising the volume of foreign aid. This approach is likely to expand employment opportunities for our increasing work force.

(ii) To achieve this objective, it is essential to reduce costs and gestation periods of investments in projects like irrigation and to help maintain the physical investment already made in them. All investments should be planned in such a way as to enable constructional work to be expedited and production started as soon as possible. It is at the same time necessary, in order to satisfy employment needs more fully, to supplement this approach by selecting certain fields of investment like small-scale industry (public or private), which are labour intensive and step up very considerably the investment.

(iii) Right now, the major task should be to utilise to the full the investment capacity already created, and not to step up the creation of additional capacity. While new investments must continue to be maintained at some level, past and present investments should be followed up by full utilisation of their capacity as early as possible.

Under-utilisation of capacity exists in agriculture (in the form of poor utilisation of existing lands) as well as in industry and transport. Investments in seed and fertiliser programmes or ancillaries in industry, for example, that are necessary for full utilisation of existing capacity, should receive much higher priority than the creation of new capacity.

Under-utilisation also exists where potentialities for the production of joint product or by-products are inadequately exploited; for example, full use has not been made of the potentialities of mixed agriculture, and mixed farming and inadequate pre-planning is responsible for failure to utilise industrial by-products like those of the sugar and chemicals industries.

Attention is now being directed towards these.

(iv) Next, we should have as complete knowledge of our natural resources as possible, and apply the available scientific and technological know-how to the utilisation of these resources. These would, within the framework of economic policy, determine the type of agricultural, industrial and other plans. Resource surveys, applied scientific research, and pre-investment surveys would enable us to decide more precisely on investments that the economy requires instead of relying on ad hoc schedules of projects based upon inadequate knowledge and information.

Measures are being undertaken to organise, extend and improve such surveys and research.

(v) In this context, the " Leading Sector " idea, can be a powerful lever to raise the rate of growth. Regional Co-operation would offer an opportunity for selecting projects that would become more economic if they have a market wider than the domestic market. Attention has already been directed towards exploring the possibilities.

(vi) The creation of maximum possible financial surplus from productive activities is fundamental to rapid development. This should be supplemented by the maximum of foreign aid.

(vii) Continuous review of tariffs, rates and fares, and subsidies in the various sectors of the economy is again fundamental to avoiding setbacks and maintaining a sustained tempo of growth. Organisational machinery for this purpose has been provided for.

(viii) Wage policy has to take into account certain important considerations—firstly the demands of a minimum standard of living, secondly the ability of the undertaking to pay a satisfactory wage, having regard to its needs for sustained growth and increased investment and the need for providing adequate surpluses for investment, and thirdly the inflationery impact of increased developmental expenditure on the national economy.

(ix) Planning at all levels, that is, the National, Ministerial, Departmental and Rural, is essential—

(*a*) to proper thinking in a development context;

(*b*) to realistic preparation of investment schedules; and

(*c*) to adequate implementation.

These have been met partly and are proposed to be further met by necessary provision where the gaps at present exist.

(x) Manpower and foreign exchange aspects are under study with a view to providing a better base for resource utilisation and for clearer directions for future investment.

(xi) Public sector activity in production has been further examined, and managerial and other problems of corporations are to be shortly taken up with a view to ensuring greater efficiency.

(xii) The problem of costs of construction and other work undertaken by Government is already under review and it is expected that considerably savings would be effected.

TABLE I

Investment in the Short-Term Programme

(Rupees Million)

Sectors	*61/62*	*62/63*	*63/64*
Agriculture —			
Tea	21·134	27·531	35·147
Rubber	20·000	20·000	20·000
Coconut	7·800	6·500	8·100
Other Agriculture	125·859	108·654	120·351
Fisheries	13·130	12·045	14·850
Industry —			
Public Sector—Large and Medium Scale	78·262	98·973	223·514
Small Scale and Cottage Industries	7·700	12·960	15·490
Private Sector—Large and Medium Scale	33·800	33·800	33·800
Small Scale	6·800	6·800	10·000
Power	80·682	94·071	77·303
Transport and Communications	175·700	182·100	176·600
Tourism	0·429	0·423	0·177
Social Services —			
Health	33·937	35·114	36·614
Education	39·376	35·702	36·600
Housing	55·020	53·655	59·320
Total	699·629	728·328	868·046

Note—(1) The Investments in the construction industry of Rs. 11·990, Rs. 9·300 and Rs. 12·180 million are already contained in the provisions for constructional machinery, equipment, etc., elsewhere in the above table ; these figures have therefore been taken out to avoid double counting.

(2) The Table excludes provision under Public Administration, Other Services, and the private sector component in Housing and Agriculture. Also excluded is the non-monetised self-help component in the total investment.

(3) Inclusive of Loans to Private Sector.

Table IIA

Agriculture Sector—Ratios Relating To Certain Projects In the Short-Term Programme

	Gestation Period		*Benefit cost ratio*	*Capital output ratio with interest during period of construction*	*Capital output ratio without interest*	*Capital employment ratio*	*Capital foreign exchange savings/ earnings Ratio*	*Revenue to Government (Rupees)*
	Initial production (Years)	*Capacity production (Years)*						
I. Export Crops Sector :								
(1) Rubber Replanting	7	14	n.a.	9·4 : 1	n.a.	5,372 : 1	n.a.	342 per acre
(2) Tea Replanting	6	12	n.a.	n.a.	n.a.	n.a.	n.a.	823 „
(3) New planting in tea by State Plantations Corporation*	4	8	1·4	7 : 1*	4·3 : 1*	7,600 : 1*	5 : 1*	646 „
II. Non-Export Sector :								
Irrigated Colonisation Schemes	8–15	12–20	0·64	13 : 1†‡	12 : 1‡	8,800 : 1‡	15 : 1‡	–357§ per acre of paddy land
III. Fisheries Sector :								
(1) Motorisation of traditional craft	Nil	Nil	n.a.	0·9 : 1	—	Nil	1·4 : 1	1,200 per boat
(2) Mechanised boats (excluding cost of shelters)	Nil	Nil	n.a.	1·8 : 1	—	4,782 : 1	2·0 : 1	800 „
(3) Mechanised boats (including cost of shelters)	Nil	3	n.a.	5·0 : 1	—	13,582 : 1	5·7 : 1	800 „
(4) Trawlers (excluding cost of harbours)	Nil	Nil	n.a.	1·0 : 1	—	7,500 : 1	1·2 : 1	n.a.
(5) Trawlers (including cost of extension to shore facilities in Mutwal Harbour)	1	1	n.a.	1·1 : 1	—	8,100 : 1‖	1·3 : 1‖	n.a.

***Includes cost for roads, factories, houses for labourers and cost of civic amenities.**

†In this case interest during construction has been added to capital whereas benefits during the same period have been deducted from capital.

‡Includes cost of roads, houses and civic building for colonists.

§Represents net financial loss to Government from one acre of paddy under major colonisation schemes. Includes amortisation of pro rata costs of colonists' cottages, civic buildings, roads, &c. Also includes all other subsidies paid by Government on one acre of paddy land and the produce therefrom.

‖Includes cost of extensions to Mutwal Habour shore facilities for accommodation of 5 additional trawlers only. Any further additions to the trawler fleet will necessitate much heavier investment in harbour and shore facilities resulting in much higher capital output ratios than those indicated in the table.

Table IIB

SHORT-TERM PROGRAMME (1)

Sector	*Gestation Period*		*Capital/Output Ratio at Capacity Output*		*Capital/Labour Ratio at Capacity Output*		*Capital/Foreign exchange earnings/savings ratio at capacity output*	*Capital/Foreign aid ratio* (3)	*Capital/profit ratio at capacity output* (4)
	Initial production (Years) (Minimum)	*Capacity production (Years) (Maximum)*	*Programme*	*Plan* (2)	*Programme*	*Plan*			
I.—Industry	6 months	5 years	2·0 : 1	2·98 : 1	20,000 : 1	10,000 : 1	n.a.	3·8 : 1	n.a.
(i) Public sector	2	5	7·50 : 1	—	90,280 : 1	—	2·90 : 1	3·8 : 1	7·60 : 1
(ii) Private sector	9 months	2 years	0·44 : 1	—	5,340 : 1	—	0·89 : 1	—	0·64 : 1
(iii) Small-scale cottage industries	8 months	9 months	0·33 : 1	—	3,000 : 1	—	0·53 : 1	—	0·52 : 1
II.—Construction	—	—	0·82 : 1	0·55 : 1	1,564 : 1	1,564 : 1	—	—	—
III.—Power Hydro Thermal	7 years 3 years		8·64 : 1	8·26 : 1	609,000 : 1	262,000 : 1	—	1·87 : 1	12·08 : 1
IV.—Transport and communications	—	—	—	9·36 : 1	61,355 : 1	30,900 : 1	—	3·73 : 1	—
V.—Tourism	8 months	2 years	0·13 : 1	—	—	—	0·13 : 1	n.a.	—
Social Services (5)	—	—	—	—	—	—	—	12·65 : 1	—
I.—Health	—	—	—	—	—	—	—	6·55 : 1	—
II.—Education	—	—	—	—	—	—	—	12·8 : 1	—
III.—Housing	—	—	—	—	—	—	—	18·29 : 1	—

Notes.—(1) The Table was computed partly from information available in answers to questionnaires, partly from other information like project reports. Wherever possible these were supplemented by information obtained orally or through interview with representatives of various agencies and basic data further checked with them.

(2) On the basis of gross values.

(3) The figures of Aid for 1963–64 are largely unknown yet. As such the above ratios do not reflect the probability of a more favourable position in the Programme period as a whole.

(4) Before Tax.

(5) There has been no basis to assume relationships for this sector, in output and employment, different from that of the Plan.

CHAPTER 5

FOREIGN AID

The need for Foreign Aid in a developing country hardly requires emphasis. An increasing scale of investment demands a corresponding supply of financial and other resources, which a country in the early stages of development may find it difficult fully to raise internally. It has, therefore, to supplement domestic resources with foreign aid. This aid is required chiefly to finance the imports of capital and intermediate goods and raw materials. While in the process of development, the country may have to ensure a minimum supply of basic consumer goods by imports from abroad. It is also required in the form of technical know-how and skills in those spheres in which an underdeveloped country would normally be deficient.

Foreign aid can assume various forms. It could be in the form of:

Gifts in kind of various types ;

Money grants primarily from Rupee counterpart funds built up against goods and services already received ;

Loans on a Rupee basis such as—Loans meeting local costs or loans from counterpart funds ;

Foreign currency loans ; and

Supply of technical assistance.

The aid may come from various sources, e.g., International Agencies ; Government to Government Assistance; Assistance by Government to the Private Sector through Specialised organisations in both countries; and direct private sector participation between two countries.

Aid may be available for specific projects and programmes or in the form of a general line of credit with the specific projects to be negotiated thereunder. A third type would be provision of foreign finance to sustain certain general import requirements such as foodstuffs and raw materials.

It has been stated in a previous chapter that of the total capital investments in the public sector of Rs. 635 million, Rs. 680 million and Rs. 690 in the three years 1961/62, 1962/63 and 1963/64 respectively, the estimate of foreign aid requirement is Rs. 116.8 million, Rs. 128.8 million and Rs. 130 million respectively. The tables on pages 75 to 81 set out the figures of foreign aid as so far received and expected to be received in the near future.

The table includes aid provided in agreements awaiting negotiations but does not cover the entire programme. Although some of the projects for which foreign aid is or would be available have been included in the present programme, it is yet not possible to incorporate their foreign aid requirement. There are, for instance, the Oil Refinery and the Fertiliser projects and the unutilised portion of the Chinese credit and the Maskeliya Power Project.

The allocation of aid by Sectors for the years 1961/62, 1962/63 and 1963/64 is shown below:—

Sector	*Percentage to Total Aid*		
	1961/62	1962/63	1963/64
Agriculture and Irrigation	2·36	10·72	
Fisheries	·13	·44	
Industries	5·92	16·98	
Power	33·78	36·26	
Transport	54·36	28·73	
Others	3·45	6·87	
	100·00	100·00	

The large sum of negotiated but yet unallocated aid highlights the need for a planning approach at different levels. In deciding on policy and organization in respect of foreign aid, attention should be given to:—

(*a*) ensuring actual utilisation ;

(*b*) ensuring and maintaining a programmed increase ; and

(*c*) progressively improving the composition of the aid received so as to fit in with the priorities and needs of the developing economy.

Attainment of these objectives largely depends on the extent to which specific proposals in this regard are available in time. Before a project becomes entitled to investment funds, it should have been worked out in detail. This procedure has, however, hitherto been followed largely in an ad hoc manner. Foreign aid in a project or programme has to be spotted by the Department or Agency concerned well before the stage of project preparation. This would enable timely exploration with likely lender countries. One of the fundamental things therefore to be observed by the Departments and Agencies is to set down in their programmes not only the aid component from provisions already negotiated, or being negotiated but also the aid component of projects which should be explored. This would enable the planning authorities to include in their programmes the foreign aid required for various projects.

The adoption of a planning approach by the Departments and Agencies themselves is a pre-condition for enabling such projection in advance. This is also basic to the building up of National Short Term Programmes. Such Short Term Programmes will provide potential lender countries with information on the various projects in their proper development context, on the extent of foreign aid programmed, and on the long-term foreign exchange earning potential Programme. The Short Term Programme can thus become itself a major factor contributing to the flow of external finance. This aspect of project and programme preparation is fundamental and its importance has been recognised.

As mentioned earlier, one of the ways in which foreign aid assists in development is by supplementing the country's resources. It must be emphasised that it is not possible to arrange, at short notice, for the flow of foreign aid to match the expanding demand for resources. The increasing pressure on resources which manifests itself in foreign exchange gap, can best be met by planning for foreign aid well in advance of actual requirement. Temporary accommodations such as those obtainable from the International Monetary Fund cannot meet this problem. Commodity aid and use of Counterpart Funds will help up to a point. But given the scale of investment in an adequate development programme, there cannot be substitutes for timely programming of projects and pre-planning for foreign aid.

The second role of foreign aid is to add to the ability of the country to meet the foreign exchange requirements of investment projects. The aid is, however, only supplementary to the foreign exchange earnings of the export sector. It is vital to maintain export earnings at a high level. But this may not be always possible owing to sharp fluctuations in primary produce prices. Moreover, receipts from these exports may fail to expand or expand rapidly enough over a considerable number of years. Accordingly, emphasis has been given in the programme to import substitution. Resources for investment could be increased through such measures of import control as were recently adopted. There is finally the need for exploiting as far as possible the capacity for industrial exports and promoting regional co-operation.

The development programme involves not only the capital costs which are largely foreign, but also increasing expenditure on imports of raw materials and intermediate goods. These costs can be paid out of funds earmarked by Commodity Aid Programmes for financing them or by the foreign exchange savings afforded by the import of food under these programmes. There is need for exploring foreign aid schemes to finance local costs as well.

The increase of foreign finance in the private sector depends partly on investment by foreign private enterprise and partly on the initiative of the local private sector in promoting projects jointly with foreign enterprise and capital. The trend so far has not been significant. It is hoped, however, that both because of the importance of increasing exchange resources and securing know-how, this method would be fully explored. The stepping up of foreign finance for this sector could be further assisted by taking advantage of Government mechanisms that already obtain between countries. The major device that has been generally adopted is for lending Governments and international agencies to channel finance to the private sector of receiving countries through Government organised industrial credit corporations. This is receiving the Government's attention. The Government is also considering a proposal to make available unutilised portions of foreign aid given to it by inviting the private sector to place orders for machinery and equipment against these credits.

The main approach to stepping up the volume of foreign aid and improving its content has so far been discussed in terms of improvements in overall programming, project preparation, and maximising of our own foreign exchange resources and making available to foreign Governments information about the development programme and its composition. But this is not enough. We should not rely on foreign governments making offers of aid on their own from time to time. We should take the initiative and explore possible sources of foreign aid. The aid obtained for certain projects in the past was the result of such initiative. It is necessary also to make every endeavour to include financing of local costs.

The base for this approach is of course the availability of information both to this country and to the foreign countries. In this context the role of our embassies abroad assumes particular significance. On the one side, all embassies will be kept fully informed of our development programme and the foreign aid required. On the other, the embassies are expected to explore the possibility of securing foreign assistance for the programme. Our embassies in other countries which are receiving foreign aid can play an important role by supplying information relating to methods, techniques and sources of foreign aid obtained by the countries concerned. This idea is being put into practice.

The volume of foreign aid now programmed constitutes a considerable increase over the past. In this connection it is worth observing that between the years 1953 and 1961 official donations of capital and consumer goods rose from a figure of Rs. 14 million to Rs. 50 million. A systematic effort should be made to increase the quantum of donations.

Smiliarly, there is much more scope for utilising finance of the type provided by the International Development Association (IDA). The inflow of foreign aid was limited in the past by the inadequate attention to possible aid in fields such as road investment, minor irrigation and re-forestation. These are areas in which assistance has been obtained by other countries. The terms on which Aid is extended by IDA and the fields of investment which are eligible for such assistance are much more liberal than these which other agencies or institutions can offer. Such a source is therefore of advantage for projects that cannot by their nature stand the normal test of profitability.

It is not only necessary to get aid but also to get it for the right projects. In this context, the policy of obtaining assistance under Aid Programmes tied in advance to specific projects has to be handled with some care. While bi-lateral agreements providing for credits are certainly welcome, it is necessary to avoid commitments in regard to particular projects before the investment pattern has been finalised and their priority decided upon.

The Short Term Programme expresses the country's investment needs in a co-ordinated form. The organisational and other measures discussed earlier in regard to project preparation and aid exploration will, it is hoped, eventually lead to the establishment of an effective foreign aid programme. This is of key importance for the achievement of Programme objectives.

FOREIGN AID BY PROJECTS AND PROGRAMMES

TABLE 'A'

(1) AID NEGOTIATED (RUPEES)

Project	Source	*Agriculture and Fisheries Utilisation*			*Industries, Power and Transport Utilisation*			*Health, Education and Housing Utilisation*			*Other Utilisation*		
		Before 1961–62	*61–62*	*62–63*	*Before 1961–62*	*61–62*	*62–63*	*Before 1961–62*	*61–62*	*62–63*	*Before 1961–62*	*1961–62*	*1962–63*
Rubber tyre and tube project	USSR				472,544	734,629	8.000.000						
Iron and Steel Project Stage I	"				1,301,288	2,108,642	10,700,000						
Flour Milling Plant	"					251.507	1,000,000						
Strengthening, improving and renewing bridges	"					1,048,986	750,000						
Establishment and development of Industries Estates	USA						1,000,000						
Rural Electrification	"				21,326	41,072							
Loans for the mechanisation of Fishing Industry including purchase of mechanised boats, engines and ancillary fishing gear	"	730,470	56,450	500,000									
Purchase of books and publications for labour training	"								6,987				
Equipment and material for the Industrial Safety Campaign	"											5,104	9,500
Building and equipment for the Central Vocational Training and Trade Testing Centre	"							219,104	276,234	259,875			
Malaria Eradication	USA/WHO							1,168.006USA	197,690USA 912,685WHO	1,332,470USA 177,573WHO			
Environmental Sanitation	USA								5,517	180,000			
Science Teacher Training College	"									1,000,000			
Diesel Hydraulic Power Coaches	"				6,544,742		784,000						
Do.	USA/DLF					3,284,285	50,000						

FOREIGN AID BY PROJECTS AND PROGRAMMES

TABLE 'A'—(*contd.*)

(1) AID NEGOTIATED (RUPEES)

Project	*Source*	*Agriculture and Fisheries Utilisation*			*Industries. Power and Transport Utilisation*			*Health, Education and Housing Utilisation*			*Other Utilisation*		
		Before 1961–62	*61–62*	*62–63*	*Before 1961–62*	*61–62*	*62–63*	*Before 1961–62*	*61–62*	*62–63*	*Before 1961–62*	*1961–62*	*1962–63*
Development of Katunayake Airport	USA												
Construction of Alutnuwara-Padiyatalawa Road	"					252,523	1,560,000						
Grant to the G. O. D. B. for the Gal Oya Island Grid Power link up	Canada				1,112,925	722,856	164,219						
Mechanical Handling equipment	"				1,903,525								
Trade Schools	"				801,680	41,819	50,000						
Cobalt Therapy Unit for Cancer Institution, Maharagama	"							999,015		999,014			
Diesel Locomotives	"							217,750		20,898			
Hydro Electric Scheme, Stage IIA	I.B.R.D.				1,580,048								
Do. Stage IIB	"				71,114,663	20,792,671	1,500,000						
Second Thermal Set, Grandpass Scheme Station	"				—	1,085,892	31,145,000						
Establishment of Chest Clinics and equipment for T. B. Institutions	Australia				12,498,507	7,666,958	7,852,000						
Dental Nurses Training Institution, Maharagama	New Zealand							4,395,455		425,066			
Machinery and equipment for Junior Technical College, Kandy and Jaffna	"							597,595		T. V. 10			
Institution of Hygine, Kalutara	Australia							1,271,972	70.492				
Development of Telecommunication Services in the greater Colombo Area	U. K.							18	199,659	500,000			
						33,325,000	8,582,500						

Coaches and Wagons	China				8,000,000	15,352,000			
Agricultural Extension	U. S. A.			270,750					
National Textile Corporation (Contribution to Capital)	China					480,000			
Establishment of Hardware Project	Poland					1,198,242			
Flood relief, reconstruction and rehabilitation	U. S. A.							11,974,132	200,000
Flood damage repairs to irrigation works (Unichchai Scheme)	Yugoslavia			35,000					
Extension to left Bank Channel Minipe Yoda Ela Scheme	Yugoslavia			105,000					
Wewalawewa Scheme	„			15,000					
Walawe Ganga Reservoir Scheme	„			70,000					
Augmentation of Akkarayankulam	New Zealand	690,363	99,751	200,000					
Punnai anicut R.B. Scheme Improvements to Vakaneri Scheme	Yugoslavia			55,000					
Kantalai Augmentation Scheme	„			35,000					
Rajanganawewa at Kadigala	„			225,000					
Kaudulla Tank Scheme	„			70,000					
Purchase of Trawlers	„			1,500,000					
Hydro-electric Scheme, Stage III (Maskeliya 'A')	Canada					8,500,000			
Port Equipment	W. Germany					6,807,000			
Basic Maternity and child welfare Services	UNICEF						30,000		
Purchase of Transport (two mobile dispensary vans)	New Zealand						39,578		
Purchase of basic equipment for Paediatric Wards &c.	UNICEF						525,000		
10 mobile mass Radiography units—2 Tape recorders, 230 Volts and 2 film strips projectors	Japan						850,000		

FOREIGN AID BY PROJECTS AND PROGRAMMES

TABLE 'A'—(*contd.*)

(1) AID NEGOTIATED (RUPEES)

Project	*Source*	*Agriculture and Fisheries Ut'lisation*			*Industries, Power and Transport Utilisation*			*Health, Education and Housing Utilisation*			*Other Utilisation*		
		Before 1961–62	*61–62*	*62–63*	*Before 1961–62*	*61–62*	*62–63*	*Before 1961–62*	*61–62*	*62–63*	*Before 1961–62*	*1961–62*	*1962–63*
Cold storage plant for fruits and vegetables	USSR										8,724	32,804	630,963
Development of Katunayake Airport	USA/DLF						3,700,000						
Traffic Survey	U.S.A.				99,975	29,024	71,000						
Dry Farming Research Station at Maha Illuppalama	New Zealand	4,619,894	34,837	25,000									
Rice Research Institution, Peradeniya	Canada	14		500,000									
Ambulance Launch	New Zealand							185,079					
Colombo Milk Scheme	„										2,166,304		
10 Artificial Insemination Vans	„	49,203											
Padaviya, Pavatkulam and Vavunikulam Irrigation Projects	Australia	11,691,106	3,992										
Rural Road construction	Canada				4,745,906	714,657	600,000						
Institute of Practical Technology	„							2,858,043					
Laboratory building faculty of agriculture, University of Ceylon	„							247,375					
Mutwal Fisheries Harbour	„	4,750,000											
Veterinary building, faculty of agriculture, University of Ceylon	„							207,296					
Repairs to Mutwal Fisheries Cold Storage Plant	.	139 057											

Irrigation and Land Development	U.S.A. Pl. 480 Title I	10,852,014	332,813								
Water Resources Planning		550,000									
Salvinia Eradication	"		243,628	788,001							
Highway Development	"				1,000,000	209,000	289,900				
Electric Power Development	"				2,000,000						
Technical Training Institutuion, Amparai	"				1 176,703	4,980	80,415				
Hydro Electric Power Surveys	"				351.507						
Colombo area Railway Services	"				6,544,742						
University of Ceylon	"							4,186,016			
Public Health Administration	"							16,712	22,906	37,000	
Labour Education	"							219,103			
Irrigation and Land Development	DLF	7,028,295									
Colombo area Railway	"				3,392,000						
Highway Development	"				3,275,610	983,891					
Expansion of Co-operative Education Services with particular emphasis on a programme of education for fishermen	Canada	613,624	59,969	100,000							
Alutnuwara Tile Factory	W.Germany					1,261,115					
Sugar Cane cultivation	U.S.S.R.	2,473,467	512,491	10 T.V.							
Occupational Health Research Equipment	U.S.A.								2,178		
Purchase of vehicles for Survey Department	Canada										22,805
Purchase of Equipment	"										12,302
Minipe Yodi Ela Scheme	W.Germany		499,973								
Hakwatunaoya Scheme	"		83,329								
Neyangama wewa	"		249,987								
Coaches for C. G. R.	China					5,088,642					
Tyres and Tubes, C. T. B.	"					1,942,088					
Khaki Drill for Govt. Stores	"										1,261,160

FOREIGN AID BY PROJECTS AND PROGRAMMES

TABLE 'A'—(*contd.*)

(1) AID NEGOTIATED (RUPEES)

Project	*Source*	*Agriculture and Fisheries Utilisation*			*Industries, Power and Transport Utilisation*			*Health, Education and Housing Utilisation*			*Other Utilisation*		
		Before 1961–62	*61–62*	*62–63*	*Before 1961–62*	*61–62*	*62–63*	*Before 1961–62*	*61–62*	*62–63*	*Before 1961–62*	*1961–62*	*1962–63*
For reconstruction of 7 miles Minneriya Kantalai Yodi Ela up to Gal Oya	Canada			3,750,000									
Namal Oya Reservoir Project	„			6,853,971									
For purchase of T.B. drugs	Australia									1,141,157			
Purchase of Stores by the Stores Department													943,930
Village Works Project					647,078	505,368	436,585						
Malwatu Oya Basin Scheme	U.S.S.R.	870,992											
Kelaniganga Basin Scheme	„				248,681	228,818							
Mining of peat at Muthurajawela	„					14,910							
Cotton Project at Hambantota	„			10 T.V.									
		45,078,499	2,177,220	15,097,722	128,833,450	82,339,333	110,652,861	16,788,530	1 694,348	7,517,631	14,149,160	1,334,175	1,784,393

UNALLOCATED, but already negotiated, Aid available for utilization over Programme period and after 1963/64 — Rs. 380,000,000

(2) AID UNDER NEGOTIATION (RUPEES)

Project	*Source and type*	*Agriculture and Fisheries Utilization*			*Industries, Power and Transport Utilization*			*Health, Education and Housing Utilization*			*Other Utilization*		
		Before 1961–62	*1961–62*	*1962–63 and thereafter*	*Before 1961–62*	*1961–62*	*1962–63 and thereafter*	*Before 1961–62*	*1961–62*	*1962–63 and thereafter*	*Before 1961–62*	*1961–62*	*1962–63 and thereafter*
Silicate Brick Factory	Poland						3,568,000						
Petroleum Refinery	Italy						125,517,946						
Second Cement Factory	W. Germany						47,460,000						
Newsprint Mill	"						35,000,000						
K.K.S. Harbour	"						25,350,000						
Total aid under negotiation							236,895,946						

(3) PROJECTS AWAITING NEGOTIATION

TABLE 'B'

FOREIGN AID BY SECTORS (RUPEES)

	Utilisation					
	Before 1961–62	*Per cent. to total*	*1961–62*	*Per cent. to total*	*1962–63*	*Per cent. to total*
Agriculture and Irrigation	38,825,348	18·95	2,060,809	2·36	14,497,722	10·72
Fisheries	6,253,151	3·05	116,419	·13	600,000	·44
Industries	4,647,974	2·27	5,151,788	5·92	22,945,242	16·98
Transport and Communications	36.295 948	17·72	47,600,952	54·36	38,710,619	28·73
Power	87,889,528	42·90	29,586,593	33·78	48,997,000	36·26
Other Services—Including Health and Education	30,937,690	15·11	3,028,523	3·45	9,302,024	6·87
Total	204,849,639	100·00	87,545,084	100·00	135,052,607	100·00

Source : Economic Division, General Treasury.

CHAPTER 6

RURAL DEVELOPMENT

The rural development programme in this country was inaugurated to harness the enthusiasm and the energy of the people for the social and economic advancement of the village. Its emphasis has been on voluntary effort by the people themselves, the government providing the necessary guidance and technical assistance.

Since 80 per cent of the population live in the country-side and a large proportion of it is under-employed, the programme can make a significant contribution to national development. The Ten-Year Plan estimated the value of public works, carried out voluntarily by villagers during eight years preceding the plan, at Rs. 100 million. It set the target for the 10 years of the plan at Rs. 855 million.

At first sight, the target seems ambitious, in particular, in the light of past experience. But the past should not be taken as the index for the future. In the first place, the growth of the movement in this country has been handicapped by lack of clarity about its objectives. Some people identify it with public works, others with economic development, and still others with improvement of the conditions in rural life. Secondly, public policy in relation to rural development has suffered from vacillation ; the emphasis placed on it has varied considerably even during the short period that it has been in operation. Thirdly, there has been insufficient re-adjustment of relations between the bureaucratic system inherited from colonial days and the popularly elected local institutions. Fourthly, there has been no integrated view of rural development as a whole and little co-ordination between different departments in respect of their approach to rural problems. Finally, there has been insufficient recognition of the place of local planning in national development.

A United Nations team on the evaluation of rural development in this country recently suggested a variety of measures to remove these handicaps. These measures are now under active consideration by the Government. First, up to now, rural development has been considered to be the specific concern of a particular department, namely the Rural Development Department. In future, it should be looked upon as the responsibility of all departments which have to deal with some aspect or other of rural life, and all officers working in the rural area should regard themselves as development officers. Secondly, it has come to be largely identified with public work construction carried out voluntarily by villagers, with some grant from the government. Henceforth, it should be regarded as covering all aspects of rural life which, directly or indirectly, contribute to the growth of the rural economy. Thirdly, up to now only rural development societies have used the principle of self-help to implement their programmes. Henceforth all departments concerned with rural life should employ the principle as far as possible. Fourthly, while many departments operate through village organisations, the initiative, in most cases, has been with departmental officers rather than the village people themselves. The relative roles of the two groups should now be reversed ; villagers must learn to consider rural development as primarily their concern, while the administrator should realise that his main business is to help and guide villagers and extend to them the technical and the financial aid which the government can provide. For this change of roles to be effective, village workers should receive adequate training and the administrator appropriate reorientation.

But since the best training in responsibility for anybody is to have the opportunity to discharge it, the village people should be given the chance to plan and implement the development of their areas. This means strengthening and developing local institutions at all levels, from the village to the district. Here the main difficulties have been (*a*) the limited resources of local government bodies, and (*b*) lack of co-ordination of the activites of village institutions. The total revenue gathered by Village Councils, the only bodies in the rural area with statutory powers of taxation, is extremely small, and though the grants made by the government appear large in relation to their revenues, the former constitute a small fraction of the total income of the central government. And while the villages seem to have a multiplicity of organisations, the real handicap has not been so much their number as the absence of an organisation to co-ordinate their activities. Again, while the Village Council has a very important place in the rural area, it has been interested in providing sanitation and allied services rather than organising development. This has been true also of Co-operative Societies ; they have devoted their energy to supplying commercial and banking services, and shown little interest in rural development. Finally, the Co-ordination Committees at the Divisional and District levels have been pre-occupied almost wholly with administrative co-ordination. To remove these deficiencies and obstacles, it is necessary to extend the powers and enlarge resources of local bodies, to co-ordinate the activities of different rural institutions and to organise them for local planning.

But local planning can take place only within the framework of national planning, and its effectiveness depends, in part at least, on the importance that is attached to it and the manner in which it is geared to national planning. As stated earlier, some transfer of power, responsibility, and resources to local bodies is necessary to sustain the people's interest and make planning at the local level worthwhile. Similarly, some measure of administrative devolution is essential to the administrator playing his new role effectively. Finally, there should be an integrated approach to rural development by different Ministries, and co-ordination of the activities of different departments. The government is taking steps to bring about these desirable developments. Properly organised and efficiently operated rural programmes can render immeasurable assistance to national economic development.

Obviously, a large part of its contribution will be non-material, in the form of improved health, education, housing, better social relations and greater co-operation among villagers, etc., These are elements of welfare desirable in themselvs, and legitimately included among the objectives of national planning. In addition to these, however, the programme can contribute directly to economic development. In the first place, it can bring into use the unemployed resources of the country, in particular idle and unemployed labour, and in so far as it uses these resources to build roads, carry out soil conservation and similar work, it will directly promote capital formation in the country, and raise production and national income. Incidentally, in the measure that the programme can make use of the principle of self-help, it will bring about an increase of national wealth and income without drawing upon the limited financial resources of the economy. Secondly, a good many of the departmental programmes for rural development, e.g., the use of fertiliser, improved seeds, extension of credit facilities, etc., depend for their effectiveness on the active interest and continuing co-operation of the rural people. To the extent that the Rural Development Programme succeeds in evoking the people's interest, securing thir participation and strengthening the co-operative spirit among them, it will increase he "productivity" of the efforts which the State is making for development, proximately, of the rural economy but, ultimately of the national economy.

CHAPTER 7

EMPLOYMENT ASPECTS OF THE PROGRAMME

A programme of economic development has many important competing objectives. For instance, a development plan can aim at maximising output, providing fuller employment, achieving a more equitable distribution of incomes, with a minimum change in the general price level in the economy. While each of these, in itself, is desirable, it may not be possible to achieve all of them in the same measure. It may become necessary to lay greater emphasis on one relatively to another.

Like most developing countries, Ceylon faces the problem of a rapid increase in its workforce, as a result of a rapid growth in population. The spectacular decline in the death rate which took place in the post-war years is already having its effect on the workforce of the country. Projections show that the workforce which was about 3.4 million in 1959 will increase to 3.9 million by 1964. [1]

Between 1961 and 1964 the workforce is expected to increase by about 300,000 or about 100,000 persons per annum. This means that the economy should develop and expand in such a manner as to provide employment opportunities to this number. It has also to be noted that 100,000 is only the annual addition to the existing workforce ; the economy must expand further to absorb the already unemployed and under-employed.

There is already a sizeable amount of unemployment and under-employment in the country. In the rural areas the pressure on land reflects itself in under-employment. In the estate areas, there is a surplus of unemployed resident labour. In the urban areas, the registrants at the employment exchanges have been steadily increasing.

According to the Sample Survey carried out by the Department of Labour, there were about 375,000 unemployed persons in the country in 1959. The survey also showed that nearly 35 per cent of the workers in the rural areas and 20 per cent of the workers in the urban areas have either seasonal work or casual work. With an annual increase in the working population of about 100,000 persons, the problem must have assumed greater proportions by now and will continue to be so in the years to come unless effective measures are taken.

---

[1] Sample Survey of Employment, Unemployment and Under-employment 1959–60, Department of Labour Colombo.

For the future, we have, therefore, a three-fold task to face in the field of employment. There is, in the first place, the existing unemployed amounting to about 375,000 for whom avenues of employment should be made available. In the second place, the natural increase in the workforce estimated at 100,000 per year has to be accommodated. Thirdly, the under-employed in the rural and urban areas should also be provided with opportunities for further continuous employment. If we are to prevent the unemployment position from deteriorating, it is necessary to create at least 300,000 job opportunities during the 3-year period covered by the Short Term Programme.

The provision of employment opportunities is a function of the size and composition of the investment programme in the public and private sectors. Here we are concerned mainly with the public sector programme. The size of this programme can be regarded as, more or less, "given" in that there are limits to government savings, domestic borrowing, the materialisation of foreign aid and the creation of money. The composition of an investment programme is, however, flexible and its pattern could be so set as to provide a maximum of employment opportunities. In other words, the pattern of an investment programme could be designed to make it employment biased.

The public sector investment programme does not appear to have this orientation. The case for industrial development has been based primarily, on the urgent need to build up the income of the nation as rapidly as possible and secondarily to absorb as much as possible the ever-growing workforce into productive employment. Broadly speaking, there are two ways in which this development can be undertaken. Industries could be established which need a great deal of capital and relatively few people to work them. A good example of such an industry is the fertiliser industry. Here, according to the Ten-Year Plan, an investment of Rs. 120 million will provide permanent employment to 600 people. The investment per worker is thus Rs. 200,000. On the other hand, industries could be set up with little capital and relatively more people to work them. Examples of such industries would be found under the Small Industries Corporation, where the investment per worker is estimated to be about Rs. 3,000. An Industrial Programme should contain the two types of investment mentioned above. One type may predominate over the other according to the social objectives in view. If the capital intensive type were to predominate, incomes will rise rapidly, but the absorption of people into productive activity will be slow. On the other hand, if the labour intensive type were to predominate, the absorption of labour will be rapid and the rise in incomes slow. While the primary emphasis in the Short Term Programme is on the increase of national output, attempts have been made, as far as is consistent with this objective, to suggest methods and techniques which will increase employment opportunities.

Activities which create employment opportunities can be broadly divided into two categories. They are, the construction of a project, on the one hand and its permanent operation, on the other. With regard to the constructional employment it is only the expansion in constructional activity that would bring about new employment opportunities to the workforce. Constructional activity between the two years 1961-62 and 1962-63 in the public sector will increase by about Rs. 26 million. This increase is expected to create an employment potential of 6,000 new jobs in the latter year. It may be noted that constructional activity as measured here includes not only buildings, dwellings as well as industrial buildings but also roads, dams, irrigation works, &c.

With regard to the creation of permanent employment, the position is relatively better even though such jobs as there will be in the coming year will not match up to the demand for employment by those entering the workforce in that year.

In agriculture, for instance, it is mainly through land colonization schemes that employment opportunities could be created. Here it is expected that in the coming year land colonization schemes will at most create about 7,250 jobs. This will include a small number on account of village expansion schemes also. It may be mentioned here that a further contribution to employment opportunities is expected to result from the grants given on account of the Tea, Rubber and Coconut Rehabilitation Programmes. In the Fisheries Programme the mechanisation of two-ton boats is expected to show a slight increase in employment opportunities. On the other hand, the mechanisation of existing craft and the addition of two trawlers per year are not going to add to employment. So far as agriculture in general is concerned, it may be remembered that, in rural areas, in particular, nearly 35 per cent of workers are under-employed. Whatever new jobs are created in this sector can be considered as being filled by the surplus in terms of underemployment in the rural areas.

In the field of social services, investment is expected to remain, more or less, the same in the coming years. This investment takes the form of construction of houses, hospitals, schools and the purchase of equipment. In the non-development services, however, there will be a slight increase in investment. The public sector programme in these fields is expected to create about 11,000 new jobs. The major source of new employment here is the recruitment of new teachers. Such recruitment is not expected, however, to exceed 5,000 persons.

It is, therefore, on the industrial sector that we should fall back to absorb the major proportion of the annual increment in the workforce of about 100,000 persons. Here the position as assessed in some detail indicates that the total absorption is not likely to exceed 6,000 at the very most. This figure includes employment opportunities in fields such as cottage industries, small-scale industries and industrial corporations.

Thus, the employment position may be summed up as ameliorated by about 31,000 jobs which will be created by the public sector investment programme. This figure leaves about 69,000 jobs to be created in the private sector. It must be noted, however, that the 31,000 jobs mentioned above refers to direct employment created by the public sector. This direct employment is expected to have secondary effects on the employment position in the private sector. What this impact would be it is difficult to estimate. It is also necessary to mention the fact that import restriction as imposed in recent times has led to the beginning of considerable private enterprise to meet the shortage in consumer goods resulting from such restrictions. Already small scale productive units are coming into existence in order to create substitutes for those imported goods that are no longer to be found in the Ceylon market. This process has already meant an increase in employment opportunities within the private sector and in the coming year it would bring a further expansion of such opportunities.

CHAPTER 8

NATIONAL INCOME AND WAGE POLICY

A sound wage policy is basic for social and economic progress. Unfortunately, governments and even wage fixing bodies often take decisions on the wage question without full consideration of all the issues involved, in particular, of the impact and the consequences of wage-revisions for the national economy.

The subject assumes greater importance when a country, such as Ceylon to-day, is attempting to execute a national plan of accelerated economic development. It was in appreciation of this need that Government appointed the National Wage Policy Commission and the Salaries Commission.

The Basic Consideration

The basic consideration for regulating all income, whether of employers or of employees, must obviously be the interest of the community as a whole or, to put it differently, since wages are a part of national income, claims for wage increases can be considered meaningfully only along with other claims on the national income.

In the light of the present needs of our economy, these claims may be set out as follows:—

(1) acceleration of economic development;
(2) expansion of opportunities for employment;
(3) securing a minimum living standard for all;
(4) promotion of social justice, including elimination of sub-normal conditions, reduction of poverty and inequality of incomes.

Over and above all these considerations is the need for preventing inflation and deterioration of the balance of payments.

Economic Development,

With a low income per head and a population growing at a high rate, rapid economic development has become a condition of survival of the national economy. But, to accelerate the development of the economy, we have to raise the proportion of the national income that has to be invested in human and material capital. The first charge on increments of our national income should, therefore, be that of investment in this broad sense. But this charge can be met only if consumption is restrained and wages and distributed profits controlled. Of course, as measures for development increase the national output, it should be possible to expand consumption, and raise wages and profits. Till then only modest increases can be permitted.

As far as employers are concerned, sufficient guarantees already exist that increments of profit flow largely into investment. Moreover, their propensity to save, which is normally high, has been stimulated by tax concessions and other incentives. In addition to all these, the government directly taxes away a high proportion of their income for investment in development projects.

But rapid development requires resources on such a scale that contributions from employers alone are not enough. Even if the whole of the increase of income accuring to employers in this country is taken away by the government, the need for investment would still not be met. The burden of saving and investment must be borne, in part, by the workers too. No country, capitalist or communist, has been able to develop rapidly without imposing restraints, in one form or another, on wages.

There should be restraints on wage increases besides those on profits. Wage increases should be controlled and the wage-earner required compulsorily to subscribe to provident and pension funds, national bonds, etc. He will receive his wage in full, but would not be able to spend it all on current consumption. But the saving he makes will go into investment and benefit him and the nation.

Mention may, however, be made of the case of skilled personnel. Consistently with the major emphasis on development in economic policy, it would seem that important claims to meet out of any balance should be those of grades of workers which are today in short supply in this country and of those working under sub-normal conditions. Broadly speaking, the former grades cover skilled personnel at various levels, trained workers, foremen, supervisors, technicians, etc. The relative shortage of this category of personnel is a serious handicap; it reduces the efficiency of the industrial set-up and lowers the productivity of machines and of the mass of unskilled workers. The shortage may indeed be one of the major causes of high capital/output ratios in the economy. An upward revision of the wages and salaries of the skilled and trained personnel relatively to the rewards received by the unskilled and the untrained will stimulate the supply of the former and more than proportionately raise the return from investment in many industries. Obviously, where the supply is short at the source, investment has to be made in the training of more workers in the required skills.

Employment and Minimum Standard of Living

The next claims on increments of national income must be those of the unemployed and the poorly paid. Social justice requires that opportunities of employment be created for the former and the income of the latter raised, before the renumeration of workers already in employment and in receipt of normal wages is increased. Besides, unemployment is a source of loss to the national economy and the jobless member of the family is a burden on the wage-earner who has to feed and clothe him. Hence, investments that extend opportunities for employment not only add to the national income but bring relief to the wage-earning worker.

No country desires that any of its workers should live below what it considers to be the minimum standard of living. Raising sub-standard wages, at least to his minimum level, should, therefore, be an important objective of wage or income adjustments. If an industry is unable to pay this minimum, consistently with a minimum return on its capital, it should, in the first instance, be given time and assistance to increase its efficiency so that it can meet its obligation to its workers, too. Only if it fails to do so after a reasonable trial, should it be closed down.

But if the minimum is to be enforceable—otherwise it has no practical significance—it should be realistic and related to the general level of productivity in the economy. If it is too high, many industries will not be able to pay it and the result will be increased unemployment. The hard fact is that a high minimum wage rate is unrealistic in a poor, under-developed country. The only way to achieve a high minimum is to speed up the process of development. This approach would, in the long run, enable not only wage earners but also large groups of self-employed workers to reach the desired levels of living. For wage earners are not the only low income group in the country. There are others who are no better off and are as much entitled to increase of income as wage earners. But being unorganised, they do not press their claims.

The country has, nevertheless, a responsibility towards them. It is in recognition of this that the Government has taken various steps to assist the self-employed towards increasing their incomes.

Social Justice

Social justice is generally understood to be the raising of the standard of living and lessening of the disparity of incomes. Measures that create work for the unemployed and raise the income of the poorly paid promote social justice in this sense. The ends of justice are also served by schemes of welfare such as those which the government of this country has adopted. Free education, extension of health services, subsidization of public transport and food prices, the guaranteed prices of paddy and other crops benefit the poor more than the rich and reduce inequality of opportunity and of real incomes. Moreover, the benefits reach non-wage earners as well as wage earners, while schemes of wage revision alone would bypass the former and reduce inequality partially.

For correcting general poverty, too, wage revision would hardly be a basic device. It would only mean a redistribution of a part of the country's current income in favour of a particular section—the wage earners. Further, in a poor country, levelling down of incomes by itself would do little to liquidate poverty. For example, in Ceylon, even if all incomes were equalised, the income per capita of the poor would not rise above the poverty line. The correct solution is, again, economic development for which, at least in the initial stages, wage control is a necessary measure.

Avoidance of Inflation and Strain on Balance of Payments

If wage increases are given indiscriminately when the domestic production of consumer goods is not increasing, the result would be inflation. In so far as the additional purchasing power is spent on domestic goods, their prices would rise. In so far as it is spent on imports, the country's foreign exchange position would be weakened. The costs of our export products will also rise and this will reduce our competitive capacity in the world market. Profits would emerge merely as a result of prices rising faster than costs, and the allocation of investment between different avenues of production would become haphazard; for it would be influenced not by the real contributions of different industries to national income but by artificially created margins between receipts and payments. All these contingencies are fraught with effects harmful to the economy.

Rising prices would tend to raise the cost of living which will in turn lead to demand for further rise in wages. But if this rise is granted, prices (with production remaining unchanged) will rise further and a vicious wage price spiral will start. In this process of money wages chasing prices, the worker stands to lose; for revisions of wage rates would necessarily be made after prices have risen in some measure ; meanwhile, real wages, i.e., money wages converted into real goods and services, would tend to be depressed.

A Statutory Tripartite Body for Wage Revision

The preceding paragraphs have discussed the question of wage revision in the context of the needs of rapid economic development. They have dealt with the relative importance of various claims on increments of national income and the necessity for maintaining stability of prices and of the balance of payments. The issues involved are many and complex. Moreover, the parties concerned tend to look at them from their limited points of view. In the resulting conflict, the wider interest of the nation may receive little or no attention. Obviously, this is unsatisfactory. It is not enough for employers and employees to come to an agreement ; the agreements must be consistent with the interest of the national economy. Besides, they may apply different principles on different occasions and arrive at markedly different decisions. It would be difficult to evolve a consistent wage policy out of this complex of varying and sometimes conflicting decisions.

Evidently, this state of affairs is unsatisfactory and should be corrected. One method which has been found effective in some countries, is to create a tripartite body consisting of employers, and workers and a nominee of Government to deal with wage policy. Such an institution will help the parties to reach agreements on wages in an orderly manner.

PART THREE

PROGRAMME

Section I—Agriculture, Forestry and Fisheries

Section II—Industry, Power, Transport and Construction

Section III—Social Services

SECTION 1

AGRICULTURE, FORESTRY AND FISHERIES

CHAPTER 9

GENERAL

Introduction

Agriculture is the base of our national economy. It yields 55 per cent. of the national income and provides employment to 57 per cent. of the total work force. It holds in its export sector the potential for the surpluses needed for investment in a programme of rapid industrialisation. On the other hand, it also carries a deficit sector—the non-export agricultural sector—which acts as a drag on the rest of the economy. Agriculture, therefore, offers considerable scope for a programme of economic development in the country.

These facts explain the crucial role assigned to the agricultural sector in the strategy of the Ten Year Plan. Surpluses from the export sector—tea, rubber and coconut—were to be diverted to promote industrial sation and the transformation of the non-export agricultural sector from a deficit to a self-supporting one. This is indeed a condition of our success in achieving a take-off towards self-sustaining economic growth. It is therefore necessary to examine the extent to which the agricultural sector has successfully performed this role.

A review of progress in the export sector (Table 3) shows a fairly satisfactory increase in the output of different export crops. This provided the economy with considerable surplus for investment. The next phase of the strategy was to divert the surpluses into industry and non-export agriculture. Due to the pressure of social demands, however, a large part of the surpluses had to be channelled into social services such as health, education, food subsidies, etc., and very little was left for the industrial sector. Moreover, investment in this sector was retarded by other factors. As shown in table 21, investment reached high levels in the non-export agricultural sector which is the traditional field of investment with established organisation and lines of development. Although it would be difficult to relate output to investment in this sector (since output is often the result of a number of factors) it is possible to ascertain whether or not a major part of the investment has borne fruit.

In regard to paddy, there has been a considerable increase of output in the past few years (Table 28). But only a small proportion of this increase can be attributed to the investment made. A large percentage of the investment in the non-export agricultural sector in recent years has been on irrigation and land development for paddy cultivation. But total paddy production from the lands developed under these schemes during none of the last three years accounted for not more than 12 per cent. of the annual increase in the total production during this period. The factors responsible for increase in production have actually to be sought elsewhere—mainly in the changes in policy and organisation introduced since 1956.

There has been again, little or possibly no increase in the production of subsidiary crops. No reliable statistics of production of subsidiary crops are available. But changes in the level of imports give some indication of the extent to which we have failed to make any progress in this field. As Table 37 shows, during the last six years, far from achieving self-sufficiency, our imports of major subsidiary foodstuffs have actually increased. This is due partly to increased per capita consumption as a result of the rising standard of living, and also partly to the failure of domestic production to keep pace with demand. With the exception of poultry, the position is not much different in respect of dairy and livestock products.

Thus except in the case of paddy where progress is not a direct result of investment, achievement has fallen far short of the primary objective of attaining the maximum of import substitution. This is all the more disappointing as this is a field in which investment has not been stinted and an established organisation and administration were already available. It would, therefore, appear that an increase in investment on the present pattern is not likely to show sufficient results in the short period.

This calls for a critical analysis of our past investments so as to ascertain the causes of low-productivity and to eliminate them where possible, or alternatively, to introduce new lines of development which will make a decisive contribution to production in the short run.

An analysis of investment in the non-export agricultural sector over the last few years shows that over 80 per cent. of this was devoted to irrigation and land development. Of this, as much as one-third was actually spent not on economic development but on what may primarily be called ' social services '. Since the gestation period for such development programmes is long, investment does not increase production in the short period. They are also slow yielding ; some of them take more than 50 years to pay back their cost and some do not do so at all. This type of investment does not, therefore, lead to any significant increase of production in the short run.

This is not, however, intended to under-rate the importance of capital-intensive long-term projects in our agricultural programme. It only means that in the current economic context, greater emphasis needs to be placed on quick yielding projects. Our preoccupation with long-term irrigation and land development projects in the past has tended to divert attention from the potentialities of other types of projects which yield fruit quickly.

Moreover, the existing capital-intensive projects in agriculture are very inadequately utilised. The need today, therefore, is firstly to give preference to less capital-intensive projects; secondly, to ensure maximum utilisation of existing capital resources; and thirdly, to make appropriate changes in policies, organisation and institutions. This in turn implies a change in emphasis from the extensive development of new lands to the intensification of agriculture on land already in use.

This would involve a fundamental change in policies, procedures and institutions that have been traditionally accepted. It may be difficult for Governments to resist pressures to increase the measure of assistance and the social service elements in the present policies. But in the interests of national economic development it is imperative that such changes be made.

The direction of the proposed changes and the concrete policy and organisational measures required for their achievement are discussed in the chapters that follow. Major agricultural targets as they emerge from the discussion are shown in table 1.

Table 1 : Short-term Programme Production Targets—Agricultural Sector

Commodity	*Unit*	1961/62 (*Actual*)	1963/64 (*Target*)	*Percent increase*
Tea	Million lb.	455·0*	490·0†	7·7
Rubber	„	215·0*	246·0†	14·4
Coconut	Million nuts	2,678·0*	2,750·0†	2·7
Paddy	Million bushels	43·2	54·8	26·9
Pulses	Thousand cwt.	58·0	60·0	3·4
Chillies—Green	„	435·0	480·0	10·3
Chillies—Dried‡	„	43·0	96·0	123·3
Onions	„	1,064·0	2,054·4	93·1
Potatoes	„	31·8	63·6	100·0
Turmeric	„	25·5	43·5	70·6
Ginger	„	24·0	38·4	60·0
Groundnut	„	36·0	38·0	5·6
Gingelly	„	75·0	75·0	Nil
Manioc	„	4,500·0§	6,244·0	38·5
Sweet Potato	„	1,248·0§	2,292·0	83·7
Yams	„	n. a.	936·0	—
Cotton	„	2·5	10·0	300·0
Tobacco—Cigarette	„	32·0	32·0	Nil
Sugar Cane	„	91·7*	408·6†	345·6
Fish	„	1,466·0	2,323·0	58·5

*For 1961
†For 1964
‡In addition to green
§For 1959/60

CHAPTER 10

EXPORT CROPS

Review of progress

The role of the export crops sector in the overall plan for economic development is to create the surpluses of income and foreign exchange required for a rapid programme of industrialisation on the one hand, and for the development of the deficit non-export sector of agriculture, on the other. The significance of the export sector is obvious from its contribution to national inome, foreign exchange earnings and employment, in 1961 as shown in Table 2.

Table 2—PERCENTAGE CONTRIBUTION OF THE EXPORT CROP SECTOR TO THE NATIONAL EONOMY 1961

	Tea	*Rubber*	*Coconut*	*Total*
National Income	19·0	4·0	6·0	29·0
Foreign Exchange Earnings	66·0	15·0	15·0	96·0
Employment as percentage of Total work force*	13·8	4·8	1·8	20·4

* Figures relate to direct employment on the plantations, and do not include the secondary employment generated by the export sector.

Table 3 indicates that the performance of the export sector has been satisfactory with regard to output. Table 4 provides useful information with regard to the area newly planted, re-planted and in full bearing/tapped for tea and rubber.

In spite of increased investment and output, however, the recent decline in the prices of some of these commodities has lowered their contribution to national income and foreign exchange earnings. This indicates the vulnerability of this leading sector of the economy and underlines the necessity to take early steps to broaden the export sector. A drive has to be made to develop existing minor export crops as well as to introduce other crops for export. It is urgently necessary to set in motion experimental studies and pilot projects for the development of new export crops like cashew nuts which can be developed on a large scale in this country.

Table 3—ACREAGE, OUTPUT AND EXPORTS—TEA, RUBBER AND COCONUT

	1958		*1959*		*1960*		*1961*	
	*Plan**	*Actual*	*Plan**	*Actual*	*Plan**	*Actual*	*Plan**	*Actual*
Tea								
Acreage	571,472	572,706	572,821	579,652	573,895	581,821	575,487	587,401
Output (Million lb.)	399	413	405	413	414	434	423	455
Volume of Exports (M.lb.)	373	411	378	384	386	410	392	426
Rubber								
Acreage	656,000	664,836	651,000	668,148	646,000	668,948	641,000	670,830
Output (Million lb.)	209	224	202	205	200	218	205	215
Volume of Exports (M.lb.)	n.a.	207	226	206	203	235	200	197
Coconut								
Acreage	1,071,000	1,071,000	1,071,000	1,071,000	1,071,000	1,071,000	1,071,000	1,071,000
Output (Million nuts)	2,448	2,096	2,476	2,382	2,515	2,255	2,557	2,678
Volume of Exports (M.nuts)	1,224	890	1,215	1,140	1,217	976	1,220	1,360

*Refers to the Ten Year Plan

Table 4—ACREAGES UNDER TEA AND RUBBER

	Total Area		*Newly Planted*		*Replanted*		*Full bearing*/Tapped*	
Year	*Tea*	*Rubber*	*Tea*	*Rubber*	*Tea*	*Rubber*	*Tea*	*Rubber*
1957	570,573	660,725	3,184	2,708	—	25,282	556,735	550,433
1958	572,706	664,836	3,326	2,184	—	24,455	558,465	541,219
1959	579,652	668,178	4,654	677	247	18,548	563,464	519,706
1960	581,821	668,948	3,402	162	882	17,912	564,062	521,832
1961	587,401	670,830	2,730	34	1,299	18,698	567,761	503,560

* 'Harvested' acreage cannot be determined as they vary from estate to estate, according to the pruning cycle adopted. The figures in this column represent the acreage in full maturity.

Tea

The tea industry, the main-stay of our economy, has made considerable progress in the last few years. Total area under the crop increased from 572.7 to 587.4 thousand acres during the period 1958-61, while total production went up from 413 to 455 million pounds during the same period as shown below in table 5.

Table 5—AREA, PRODUCTION AND EXPORTS OF TEA—1958–1961

	Unit	*1958*	*1959*	*1960*	*1961*
Area	'000' acres	572·7	579·7	581·8	587·4
Output	million lb.	413	413	434	455
Exports	"	411	384	410	426

Although there has been considerable investment during these years, the large increase in output is hardly related to investment. This investment has been made mainly in replantation and new plantations. An analysis shows that new plantations of tea subsequent to 1954 could not have resulted in these additions to output, whereas new plantations in the period 1950-54 could have accounted for only 13 per cent. of this increase. Similarly, although a replantation programme has been in operation since 1958, this programme could have had only a negative effect on output during this period, as the yields of the replanted acreages will be realised only after 1962. On the other hand, the temporary cessation of production due to uprooting and replanting could have caused only a diminution of production. It is, therefore, quite clear that a substantial increase in production is the result of rehabilitation measures and the increasing use of fertiliser by the tea plantations in the private sector. This increase in yields is not something new. There has been a steady trend of yield increases, amounting to as much as 34 per cent. in the ten years between 1948-58. The increase during the period 1958-61 has been at the rate of 2.3 per cent. per year, the average yield per acre having risen from 713 pounds in 1958 to 778 pounds in 1961.

This conclusion is significant for determining the lines of development for the Short-term Programme. It becomes quite apparent that here too, as in the case of the non-export sector, the greater prospect for increase in income in the near future comes from intensification of cultivation and exploitation of existing resources, rather than from heavy investment in the creation of new assets.

It is necessary, however, from the long-term development point of view of the industry, to ensure an expansion of acreages together with a steady renewal of superannuated acreages by systematic replanting. The Government has, therefore, introduced tea replanting and rehabilitation programmes with a view to keeping up acreages and output from this sector. It has, however, to be appreciated that these investments by Government are of a long-term nature, not likely to result in significant increments to production in the short run. In the Short-Term Implementation Programme, therefore, an attempt is made to strike a balance between the long and short term needs of the industry.

The Tea Replanting Subsidy Scheme

This scheme introduced in 1959 is applicable only to estates over 100 acres in extent, a subsidy of Rs. 2,500 per acre being provided for re-planting old tea lands with new high yielding clones. The average replanted area increased considerably between 1959 and 1961. The increase was, however, very much below the annual target of 4,000 acres and above laid down in the Ten Year Plan.

Table 6—ACREAGE REPLANTED AND SUBSIDY PAYMENTS UNDER THE TEA REPLANTING SUBSIDY SCHEME, 1959–61

	1959	*1960*	*1961*
Acreage replanted	247	882	1,298
Subsidy payments (million Rs.)	1·16	2·93	3·79

The reasons for the poor response by the private sector are many. Tea replanting involves loss of production in the replanted acreages from the time of uprooting to the time of bearing. On the other hand, the response to increased application of fertiliser has been encouraging. This has discouraged most estates from incurring the costs and short-term losses of replanting especially in view of the uncertainty about future world prices.

From the point of view of the long-term development of the tea industry, the scheme of replanting is an essential measure. The capital output ratio of this investment compares favourably with that of investments in the irrigation and land development sector. However, due to the relatively long gestation period of this investment no increases in total output can be expected in the short-term period, and, an ambitious scheme for replanting large acreages can only cause a set-back to production in the short run.

It is clear from this analysis that a major part of the increases in output can be expected within the Programme period only from the extended use of fertiliser. While it is necessary to ensure that the long-term development needs of the industry are met, it is also necessary to ensure adequate balance in the programme so that there is no serious set-back to production in the short-term as a result of taking up too extensive areas for replanting during this period. In comparison, the planting of new acreages (which is not accompanied by the disadvantage of loss of earnings from already producing lands) has certain obvious advantages over replanting. It is, therefore, intended to continue with the programme of replanting, but on a more moderate scale and to balance it by an increase in the acreage of new plantations. Meanwhile, every effort will be made to continue the trend of yield increases in the short-run by the intensive application of fertiliser.

In the light of these principles it has been decided to scale down the Ten Year Plan target of 4,000 acres to 1,750 acres in 1962, 2,250 acres in 1963, and 3,000 acres in 1964. But based on past experience (Table 6) it is found necessary that additional incentives have to be provided even to achieve these reduced targets. The rate of subsidy payable for replanting has accordingly been increased from Rs. 2,500 to Rs. 3,750 per acre with effect from 1st January, 1963, in respect of vegetatively propagated tea cuttings and when the soil is required to be re-conditioned for a minimum period of one year. The amount of the subsidy paid when the soil is not required to be re-conditioned is Rs. 3,250. When replanting is undertaken with tea seed or tea seedlings. the rate of subsidy is Rs. 2,750.

New Planting of Tea

Studies show that considering the loss incurred in uprooting and the longer time taken for the replanted acreages to bear (due to the time taken for reconditioning of the soil), new planting is more economic than replanting but in view of Ceylon's position in the world tea market it does not seem advisable to substantially increase the area under tea. Regulations have already been made that tea estates or tea smallholders when they resort to new planing are eligible for subsidy at the rates given under tea replanting, only when an equal area is uprooted elsewhere.

According to a recent study by the Food and Agricultural Organisation of the United Nations, although trade in tea is likely to increase only gradually, the market for low-grown teas is promising. It has been estimated that there are about 50,000 acres of land in the mid and low-country wet-zone suitable for the cultivation of this and other commercial crops. It is intended to open up a major part of these new lands for cultivation of tea (mainly low-grown) as this is a profitable line of investment. Accordingly, Government has decided to undertake greater investment in this field, through the Ceylon State Plantations Corporation whose first venture is the development of 1,000 acres of land under tea at Pelawatta. The planting of 593 acres has so far been completed. Table 7 indicates the Corporation's programme of development.

Table 7—DEVELOPMENT PROGRAMME OF THE CEYLON STATE PLANTATIONS CORPORATION

	1958-59	*59-60*	*60-61*	*61-62*	*62-63*	*63-64*
(*a*) *Pelawatte State Plantation :*						
Acreage developed	140	223	230	200	207	—
Investment (Rs. '000)	0·200	1·700	2·300	1·175	1·175	0·900
(*b*) 3 *New Tea Plantations :*						
Acreage to be developed	—	—	—	—	600	600
Investment (Rs. '000)	—	—	—	—	2·425	4·200
(*c*) *Rehabilitation of acquired Estates :*						
Estates (Investment Rs. '000)	—	—	0·760	1·200	1·000	0·611
Total investment ...	·200	1·700	2·300	2·375	4·600	5·711

A comparison of the acreage developed by the Ceylon State Plantations Corporation with total acreage will show that although the State has undertaken investment in this field since 1958, the progress made so far has not been sufficient to effect any significant change in acreage or production.

New acreages are also being planted with tea under Highland Colonisation Schemes. This investment was commenced in 1958 and 4,742 acres have been planted so far. Under this scheme Crown land is planted with tea on the basis of colonists' small-holdings of 2 acres each. It is intended to alienate a further 1,000 acres in each of the years 1962-63 and 1963-64, for development in this manner. Although the cost of plantation on this basis has proved to be slightly less than that of the State Plantations

Corporation, it is felt that in the long-run, the efficiency and returns from plantation by the latter will be greater. It is, therefore, intended to give preference in the allocation of land and funds to State plantations in the future.

The Tea Rehabilitation Subsidy Scheme

This scheme which was introduced in 1959, is financed from the Tea Subsidy Fund, and is applicable only to small estates of less than 100 acres. Under this scheme subsidies are paid to owners of estates for the purchase and application of fertiliser, filling of vacancies and soil conservation.

The response to the scheme has been very encouraging in respect of acreage rehabilitated and investment.

Table 8—WORKING OF THE TEA REHABILITATION SUBSIDY SCHEME—1959–61

	1959	*1960*	*1961*
Filling up of vacancies (acres)	1,385	8,194	13,300
Soil conservation ,,	1,783	11,762	19,405
Fertiliser ,,	17,440	34,152	40,900
Subsidy peyments (Rs. million)	1·031	3·469	4·473

Time will show the extent to which production on small holdings has been increased by this scheme. Meanwhile, it is intended to continue this scheme with increases in investment and acreage to be rehabilitated.

Summary of Development Programme for Tea

Table 9 sets out the proposed investment in tea, indicating the new acreage to be planted and the acreage to be replanted and rehabilitated, during the Programme period :—

Table 9—TEA—ACREAGES AND INVESTMENT, 1962-64

Rs. Millions

	1962		1963		1964	
	Investment	*Acreage*	*Investment*	*Acreage*	*Investment*	*Acreage*
Tea Replanting	7·305	1,750	13·730	2,250	20·468	3,000
Tea Rehabilitation	6·454	6,000	5·301	6,000	4·968	6,000
New Planting by State Plantations Corporation	1·175	200	3·600	807	5·100	600
Rehabilitation by State Plantations Corporation	1·200	n.a.	1·110	n.a.	·611	n.a.
Highland Colonisation Schemes	5·000	416	3·800	1,000	4·000	1,000
Investment Total	21·134		27·531		35·147	

Projections in respect of output, export volume and foregin exchange earnings of tea, during the period of the Programme are as follows :—

Table 10—Targets of Output, Consumption and Export—1962-1964

	Output (million lb.)	*Domestic Consumption (million lb.)*	*Export Volume* (million lb.)	*Value of Exports** (*Rs. Million*)
1962	460	30	430	1,122
1963	475	34	443	1,160
1964	490	35	455	1,187

*At constant price as in 1961.

Instant Tea

According to a recent analysis of tea trends and prospects, world production and consumption of tea will be in close balance for a few years. It is necessary, therefore, that we adopt every means of stimulating world consumption and obtaining a larger share of the market. Government has decided to encourage the establishment of a factory for the manufacture of Instant Tea according to a process developed by the Tea Research Institute in collaboration with the Ceylon Institute of Scientific and Industrial Research. A factory is being established by a foreign company for the manufacture of " Ceytea ". It is likely to go into production this year. This enterprise may prove to be a crucial factor in holding old markets for Ceylon tea and developing new ones.

Rubber

Unlike tea, rubber has not made much progress in terms of acreage, production and total exports. This is mainly because of the large scale uprooting of rubber as a result of the replantation scheme. During the period 1954 to 1961 as much as 169,729 acres had been replanted with high yielding rubber. Till such time as this considerable acreage comes into bearing (the acreage of the first year of replantation will produce yields only in 1963), total production of rubber is not likely to register any substantial increase. Average yields have already shown a rising trend.

Table 11—Output, yield and exports of rubber—1954–1961

	Unit	*1958*	*1959*	*1960*	*1961*
Total output	(million lbs.)	224·4	205·3	217·9	215·1
Yield per acre	(lb.)	339	414	382	427
Exports	(million lb.)	225·7	205·7	234·6	197·3

All rubber lands are in the private sector. But, unlike tea, only a small percentage of the acreage under rubber is in foreign hands, and over a quarter of the total acreage consists of small holdings of less than 10 acres each. For carrying out capital improvements, therefore, some measure of government assistance is required. Major investment in rubber is in replanting, for which government provides assistance by means of the Rubber Replanting Subsidy Scheme. From 1954 onwards a sum of Rs. 20 million has been provided annually, of which Rs. 15 million is obtained through the Trade and Economic Agreement with China.

The Rubber Replanting Subsidy Scheme

Although large scale replanting of rubber lands has taken place since 1954 there has so far been no significant increase in production. Replanted rubber takes seven years to bear and 14 years to produce at full capacity. Although earlier replantings will start showing results by the beginning of the programme period, a substantial increase in the total production cannot be expected earlier than the end of the Short Term Implementation Programme.

The scheme has worked satisfactorily so far. The investment made and the acreage replanted since 1958 are given below:—

Table 12—ACRES REPLANTED AND NEWLY PLANTED

	Unit	*1958*	*1959*	*1960*	*1961*
Area replanted	Acres	24,445	18,547	17,912	18,686
Subsidy payments	Rs. million	19·170	16·980	16·560	17·074
Area Newly planted	Acres	205	141	852	1,516

In view of the reduction in the cost of production of synthetic rubber and its increasing substitutability over a wider range of uses, the future market for natural rubber would depend on the extent to which its cost of production can be reduced. This can be done only by replanting with higher yielding clones. It has, therefore, been decided to continue the programme of replanting during the Programme period, and provision has accordingly been made for replanting as follows:—

Table 13—RUBBER REPLANTING PROGRAMME

	Unit	*1962*	*1963*	*1964*
Area to be replanted	Acres	15,000	15,000	15,000
Subsidy payments by Government	Rs. million	20·000	20·000	20·000
Total investment in replanting including private sector counterpart investment	Rs. million	36·660	36·660	36·660

New Planting under Rubber

At present new planting of rubber is encouraged only if planted with high yielding varieties, although planting with ordinary rubber is permitted provided such areas are budded within a specified period. Table 12 shows new plantings registered from 1958-1961.

In accordance with Government's policy of diversification of export crops, the plantation of other crops will be encouraged in preference to rubber. This is all the more necessary because of the likelihood of a fall in the future world market price of rubber due to increased competition from synthetic rubber, release of stockpiles in the U. S. A. and U. K. or both factors. While the price of natural rubber is subject to wide fluctuations in the world market, consumption in the producing countries has been increasing rapidly. Ceylon is no exception in this respect. The decision to establish a tyre and tube factory will make for greatly increased consumption of local rubber which will grow to the extent that goods are produced for export and are able to find place in the markets of the world.

Overall Trends

Total acreage under rubber during the short-term period is likely to remain at around the present level of 668 thousand acres. Of this, the acreage replanted by the end of 1964 would be approximately 230 thousand acres, which is a little over a third of the total acreage. Increases in production due to replanting undertaken from 1954 to 1956 would have an impact on total production from 1963 onwards. Taking these additions to output into account, Table 14 gives an estimate of the volume of exports and foreign exchange earnings therefrom on the basis of tentative price forecasts.

Table 14—ESTIMATED VOLUME OF EXPORTS AND FOREIGN EXCHANGE EARNINGS FROM RUBBER 1962-64

	Output (Millions lb.)	*Volume of Exports* (Million lbs.)	*Foreign exchange earnings** (*Rs. Million*)
1962 ..	224·0 ..	224·0 ..	260
1963 ..	233·0 ..	233·0 ..	270
1964 ..	246·5 ..	242·0 ..	280

* At 1961 constant prices.

Coconut

Coconut provides our third most important source of foreign exchange earnings. It also constitutes an important item in the local diet, approximately 50 per cent. of total production being consumed locally.

The total area under coconut has remained at about 1,071,000 acres since 1958. However, due to Government's schemes of assistance, total production has achieved substantial increases, reaching a peak in 1961. The same is true of coconut exports. Both production and exports rose between 1958 and 1961. The bumper crop of the latter year is largely the result of increased application of fertiliser with the aid of Government subsidies under the Coconut Rehabilitation Scheme. Good weather conditions also contributed to this increase. Table 15 indicates total output and exports from 1958 to 1961.

Table 15—TOTAL OUTPUT AND EXPORTS OF COCONUTS

	Unit	*1958*	*1959*	*1960*	*1961*
Total output ..	Million nuts ..	2,096 ..	2,382 ..	2,255 ..	2,678
Volume of exports ..	„	890 ..	1139 ..	976 ..	1360
Value of exports ..	Million Rs. ..	164 ..	244 ..	184 ..	203

Coconut production, like tea and rubber, is mostly in the hands of the private sector but unlike the latter it is cultivated mainly on small holdings. Nearly 75 per cent. of the total acreage consists of holding less than 20 acres. This has to a certain extent retarded the rapid development of this crop in comparison with other major export crops which are characterised by higher capitalisation and larger and more efficient units of management. In order to assist coconut producers to improve their lands, to fill vacancies, and replant superannuated acreages, Government has introduced various schemes of assistance. Recent achievements of the coconut industry have, to a large extent, been the result of these schemes. The full cost of these subsidy schemes is borne by government, unlike the tea replanting and rehabilitation schemes which are financed by a cess on tea exports, and the rubber replanting scheme which is mainly financed from proceeds realised by a foreign trade agreement.

The first of the subsidy schemes for coconut is the one on fertiliser for coconut lands. Information regarding this scheme is given in Table 16.

Table 16—COCONUT FERTILISER SCHEME

	1958	*1959*	*1960*	*1961*
Tonnage distributed ..	34,758 ..	44,030 ..	42,176 ..	38,800
Acreage covered by subsidy* ..	350,000 ..	350,000 ..	321,000 ..	350,000
Subsidy payments (Rs. Million) ..	4·578 ..	5·975 ..	5·396 ..	4·866

*Coconut Rehabilitation Department Estimates

Secondly, assistance is given by government through the Coconut Seedlings Subsidy Scheme for the filling of vacancies on coconut plantations and the replanting of coconut lands. Information relating to this scheme is given in Table 17.

Table 17—COCONUT SEEDLINGS SUBSIDY SCHEME

	1958	*1959*	*1960*	*1961*
No. of seedlings (million)	1·175	1·297	1·323	1·149
Acreage	19,600	21,500	22,000	19,150
Subsidy Payments (Rs. Million)	0·850	0·850	0·850	1·000

Progress made under these two schemes is satisfactory, and the existing programmes will be continued during the next three years. Approximately one-third of all coconut lands is receiving the benefit of the fertiliser subsidy annually, and approximately 20,000 acres are being replanted with seedlings at subsidised rates. Subsidy payments during the programme period are shown in Table 18.

Table 18—COCONUT SUBSIDY PAYMENTS

Rs. Million

	1962	*1963*	*1964*
Fertiliser subsidy scheme	6·0	4·5	6·3
Seedlings subsidy scheme	0·9	0·9	0·9

The third scheme for coconut, which is a subsidy scheme for the replanting of citronella lands with coconut, was commenced in 1960. This scheme was introduced because the cultivation of citronella proved to be uneconomic. It is working satisfactorily, and 24,000 acres of land under citronella will be replanted with coconut by 1964. Subsidy payments will, however, continue till 1970.

In the light of this programme of development, the exportable surplus and foreign exchange earnings from coconuts (after making allowances for domestic consumption) are estimated, during the Programme period, to be as follows:—

Table 19—COCONUT—ESTIMATED EXPORT SURPLUS AND FOREIGN EXCHANGE EARNINGS

	Production (Million nuts)	*Export Volume* (Million nuts)	*Value of exports** (*Rs. million*)
1962	2,600	1,371	196
1963	2,600	1,371	207
1964	2,750	1,407	220

*At constant price as in 1961.

Minor Export Crops

The major portion of our national income and foreign exchange earnings comes from three major export crops. But although considerable increases in output and yields have been achieved, the decline in world market prices has led to a fall in our export earnings. This demonstrates the urgent need to diversify our export crops.

Quantity : '000 Units
Value : Rs. '000

Table 20

EXPORT OF (SELECTED) MINOR AGRICULUTRAL PRODUCTS 1957—61

Commodity	1957		1958		1959		1960		1961	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Cacao (cwts)	52·7	8,978	52·0	10,818	52·7	10,039	43·8	7.437	52·5	7,153
Cardamoms (cwts.)	2·9	3,444	2·2	2,703	3·0	3,146	3·2	3,694	3·1	3,236
Cinnamon quills (cwts.)	40·1	18,360	45·5	18,687	50·3	16,079	48·2	13,743	53·9	14,083
Cinnamon chips (cwts.)	4·1	242	5·3	310	5·7	404	5·1	403	6·9	536
Cinnamon chips (cwts.)	4·1	242	5·3	301	5·7	404	5·1	403	6·9	536
Cinnamon bark oil (ozs.)	2·4	328	1·5	262	2·8	377	1·4	226	2·4	504
Cinnamon leaf oil (ozs.)	69·9	503	54·6	336	72·9	438	56·4	408	58·9	422
Nutmeg (cwts.)	2·6	1,023	2·8	976	1·8	413	2·2	522	1·3	301
Citronella oil (lbs.)	1,325·2	4,151	1,145·7	2,585	886·7	2,246	868·6	3,526	1,049·0	3,657
Cloves (cwts.)	4·0	884	1·2	208	·3	41	1·3	187	·4	139
Pepper (cwts.)	5·4*a*	595	14·3*a*	1,500	2·3*a*	342	13·4	3,639	·6	119
		38,750		38,715		33,929		34,188		30,686

a Pepper ground.

Source : Customs Returns.

While it is necessary to develop new crops for export, our first task should be to strengthen and expand our existing minor export crops. Ceylon has long been known for its export of spices and essential oils such as cinnamon, cinnamon oil, nutmegs, cloves and cardamoms. But a glance at the figures in Table 20 will indicate that exports of the above commodities have been declining. Their contribution to our export earnings in 1961 was in the region of Rs. 30 million as against Rs. 38 million in 1957. A review of the problems pertaining to increased production and marketing of these commodities reveals that they are capable of solution. Efforts have therefore, to be made to expand the acreage under these commodities, to increase yields, to improve their quality, and to expand their markets. This would require a greater study of the technical problems pertaining to their cultivation, quality, control and processing, and the potentialities of various export markets. At present very little is being done in regard to any of these aspects. There is, therefore, an urgent need for the establishment of a special institution for the investigation and study of the problems of minor export crops.

Firstly, it will be necessary for the Department of Agriculture or some specialised agency (similar to the Tea Research or Rubber Research Institute) to investigate the technical problems associated with the cultivation of these crops. The decline in the cultivation of citronella, and the lack of progress made in cinnamon (despite the availability of suitable lands for their cultivation), indicate the need for the development of improved strains, and solution of various technical problems connected with their cultivation. Similarly, much needs to be done towards improving the quality of these products in the stage of processing. For instance the refinement and processing of local pepper should ensure for us an increasing market for these commodities. Secondly, the necessary legal and administrative arrangements will have to be made for establishing suitable standards of quality control in production and processing. Although necessary arrangements are being made for the enforcement of standards in respect of papain, citronella and cinnamon oil, such measures need also to be introduced in regard to other crops. Thirdly, greater efforts should be made to investigate the possibility of expanding existing markets for these commodities and for entering new ones.

The solution of the above problems, especially those of processing and marketing, could lead to considerable expansion of markets for crops such as cardamoms, cloves, pepper and mustard. Cultivation of these crops is relatively simple and large increases in production would be possible if the above problems could be overcome.

Cacao is another important minor export crop which has earned foreign exchange to the value of a little over Rs. 7 million in each of the years 1960 and 1961. The main problem of cacao cultivation is to increase the present average yield of about 2 cwt per acre to a level which would compare favourably with the yield of 10 cwt which is realised from good cacao land in the main cacao producing countries of the world. The poor yield of Ceylon cacao can be attributed to the senility of the plantations, poor stand per acre, insufficient or excessive shade, and the incidence of a virus disease known as " vein clearing disease " in certain areas, particularly in the Dumbara Valley.

The Government has already set in motion a subsidy scheme to encourage replanting of superannuated plantations. While the response to this scheme was encouraging when it was commenced, interest in replanting declined mainly due to a rapid fall in prices during the past four years. Government is now considering a revised scheme which offers more attractive levels of assistance for replanting.

In regard to the control of the virus disease (which spreads mainly through planting material), it is proposed to establish three large central cacao nurseries under the supervision of the Department of Agriculture, where selected clonal seedlings will be raised for distribution to producers.

Simultaneously with the expansion of existing crops, there is a need to develop the production of new crops—preferably the ones which have been cultivated successfully in this country. There is a growing world market for cashew nuts, and exports from the principal exporting countries have increased from 82,000 tons in 1956 to 140,000 tons in 1960. There seems to be a ready export market for this crop despite new plantings in several countries.

The cultivation of cashew presents no serious problems. Cashew is already cultivated on the poor sandy soils of the eastern and north-western coastal belts. The extension of its cultivation will provide the means by which the waste and sandy tracts of Batticaloa, Trincomalee, Puttalam and Mannar districts, which are now not put to productive use, can be made to yield rich returns.

Cashew can be cultivated on an extensive scale. This enables the plantation of large areas at comparatively low cost. It is suggested that cashew trees be planted on the lines of the present cooperative reforestation scheme, whereby lands are given to cultivators for chena cultivation on the condition that they inter-plant their chenas with cashew, and look after the cashew plants for a period of two years. In return for this, they will be paid at a fixed rate for each plant. The cashew tree takes six years to bear, during which time little or no care is required. Labour could be introduced at a later stage for development, picking and processing. On this basis, considerable acreages of otherwise unproductive lands could be planted at little expense, resulting in considerable export and foreign exchange earnings in the years to come.

In addition to developing existing crops for export, it is also necessary to investigate the possibility of introducing other commercial crops which have not been cultivated in this country, but which have assured markets in the world. A possible crop is the oil palm which is grown extensively in Malaya and which the Department of Agriculture is trying out locally. It is necessary that a pilot project be commenced on a sufficiently large acreage to try out this crop for commercial production. Similarly there would appear to be good scope for kenaf.

CHAPTER 11

IRRIGATION AND LAND DEVELOPMENT

Irrigation and land development has been the major field of investment the post-independence era. They still continue to absorb a greater part our investment in the agriculture sector as can be seen from Table 21.

Table 21

Investment in Agriculture

	Actual Expenditure			*Financial Provision*	*Plan allocatio*	
	1958–59	*1959–60*	*1960–61*	*1961–62*	*1962–63*	*1963-6*
1. Non-Export Agriculture (a) (ii) b+c+d)	77·40	77·13	92·31	138·99	120·69	135·
(*a*) Irrigation and Land development (i) Total	97·63	88·30	106·10	115·60	104·90	104
(ii) Agricultural component only (Excludes Investments in colonists' houses, civic buildings, lands for village expansion, roads, etc.	56·42	50·63	65·15	72·89	66·31	67·
(*b*) Crops and animal husbandry	16·98	18·91	18·86	49·20*	38·83	49
(*c*) Forestry	0·94	2·77	2·46	3·77	3·50	3·
(*d*) Fisheries	3·06	4·82	5·84	13·13	12·05	14
2. Export Agriculture	29·53	34·34	39·16	48·14	54·03	63·
(*a*) State Plantation Corporations and Highland Colonisation Schemes	3·15	4·97	4·33	7·38	8·50	9
(*b*) Others†	26·3[illegible]	29·37	34·83	40·76	45·53	53·
3. Total Agriculture (1+2)	106·93	111·47	131·47	187·13	174·22	198

* Includes supplementary estimates.

† The investment in export crops is largely extra-budgetary.

However, despite this considerable investment which has been made mainly in the non-export sector the output of this sector has not been such as to make any significant impact on our food problem. It is time, therefore, to critically examine returns in relation to investment made, and to adopt a more realistic approach to development. This is all the more necessary at a time of scarce capital and foreign exchange resources. Continued investment in a traditional field quite unrelated to output can only be undertaken at the cost of funds to other more productive activities.

Table 22 indicates the investment made in land development and colonisation (excluding the Gal Oya Scheme) in the past 7 years, and the number of allotments developed and alienated. It excludes village expansion allotments, the investment on which is largely of a social service nature, and the output from which cannot readily be measured.

Table 22

INVESTMENT IN LAND DEVELOPMENT AND COLONISATION AND ACREAGE ALIENATED
1955 TO 1961

Year	*Investment in land development (Rs. million)*	*Investment in colonisation (Rs. million)*	*No. of allotments alienated*
1955	11·756	n. a.	2,889
1956	13·603	2·299	3,262
1957	15·062	2·029	3,695
1958	17·495	1·641	3,423
1959	18·297	3·367	2,540
1960	18·498	2·744	1,732
1961	18·205	2·011	620

The average annual rate of alienation over the last 7 years has been 2,865 allotments at the rate of 7,905 acres of paddy land per year. The corresponding rate oover the last 3 years has, however, been 1,594 allotments with approximately 4,148 acres of paddy land per year. The rate of alienation which was initially accelerated by the programme of advanced alienation* has thus been slowed down. This is due mainly to the lag in the provision of irrigation facilities, thus showing quite clearly that the rate of colonisation on the basis of present colonisation policy, cannot be far in advance of the provision of irrigation facilities.

---

* A system under which allottees are selected and brought tnto the scheme before developement work commences and in which allottees themselves are engaged in development work like jungle clearing etc., instead of departmental labour.

Progress in the field of irrigation has been no better. Here too, heavy investment has not yielded commensurate results. Table 23 shows the investment made in irrigation, and total acreages made irrigable for the first time under both major and minor schemes (excluding acreages under the Gal Oya Scheme) from 1955 to 1961.

Table 23

INVESTMENT IN IRRIGATION AND ACREAGE MADE IRRIGABLE (1955 TO 1961)

Year	*Investment in Irrigation (Rs. million)**	*Total acreage made irrigable for the first time*	*Existing acreage for which irrigation facilities were improved*
1955†	10·057	7,589	6,167
1956	24·814	11,293	6,149
1957	28·428	10,410	10,929
1958	24·180	5,041	3,248
1959	23·604	11,545	4,264
1960	21·969	12,644	7,111
1961	34·418	6,115	3,239

* Does not include expenditure on flood damage repairs.

† Excludes an area of 10,000 acres under G.O.D.B and the corresponding investment.

It is true that progress in the construction of irrigation works received a set back due to the diversion of staff for the repair of irrigation structures damaged by floods of December, 1957. But it is significant to note that the new area made irrigable for the first time has not shown any significant increase despite increases in financial provision and staff.

There does not seem, therefore, to be much hope of any significant increases in irrigable acreage in the future on existing lines of policy and existing levels of performance. Since the rate of land development and colonisation depends on the rate of provision of irrigation facilities, the rate of land development and colonisation cannot also be substantially increased.

Since the ultimate economic justification for this investment is not the acreage developed, but the output therefrom, it is necessary to assess the value of production from the lands opened out each year under these schemes. Since the highland allotments are not put to much productive use, almost the entire production from a colonisation allotment would be from the three acre paddy lot. On this basis it is calculated that paddy produced* on the lands colonised annually (taking the average alienations of the last seven years) would be sufficient to feed only 1/5th of our annual increment in population. If the average alienations of the last three years were taken into consideration, however, the corresponding production would be sufficient to meet the rice requirements of only 1/10th of the annual increase in population. Due to the undiversified paddy mono-culture which is practised under these schemes, their contribution towards our requirements of subsidiary food-stuffs and livestock products, can for all practical purposes, be ignored.

---

* Calculated on an average yield of 24 bushels per acre and 45 percent double cropping.

Two conclusions emerge from this: firstly, it is clear that the total contribution of this sector has not been such, and will not be such, as to make any significant contribution to our food, national income and foreign exchange position at this critical period of our economic development. Secondly, the limits of physical capacity of performance by the departments concerned, and the limits of financial provision by government, having been reached, no significant expansion in acreages irrigated or developed can be expected on the lines of policy hitherto followed.

These colonisation schemes have, however, made some contribution to the relief of unemployment and congestion in the densely populated areas. On the basis of average alienations over the last 7 years, and on the assumption that each allotment (together with the secondary employment generated by these schemes) provides employment to two persons, an average of 5,730 persons would have been provided employment each year as a result of these schemes. The average cost of providing employment under these schemes would vary from Rs. 7,500 to Rs. 8,500 per worker. This compares very favourably with the cost of employment per worker in capital intensive industries such as iron and steel and tyre and tube manufacture. It, however, does not compare so favourably with small-scale industries which require only an investment of approximately Rs. 2,000 per worker employed. Although their contribution from the point of view of employment has been greater than from other schemes in the public sector it must be noted that their contribution in terms of the total unemployment problem has not been too significant, the number so employed representing only 5.6 percent of the average annual increase in workforce during these years.

Moreover, the question of employment and relief of congestion cannot be considered without relation to the contribution of such employment to national income. If there is no net gain to national income or to government from these schemes, the fact that they provide employment will not be a sufficient justification for their continuation. It will be shown later that many of these schemes in their present form are uneconomic for various reasons, that they continue to be a running drain on the resources of the country and do not provide employment on a really self-supporting basis.

These schemes also make a contribution towards the relief of congestion in over-populated areas of the country. The relief of congestion is socially desirable. But here, too, they have not been able to make any substantial impression on the overall problem of congestion.

Since irrigation and land development have been basic to our agricultural policy and since they are worth continuing in view of their contribution to employment and relief of congestion, it is necessary to analyse the reasons for their low return, with a view to rectifying any deficiencies in the pattern and manner of investment and in the implementation of these schemes.

The first and most striking feature of these schemes is their heavily built-in social service component. This is so in regard to village expansion schemes, 80 percent of the expenditure on which, can be properly classified as 'social service' expenditure. This is also so in respect of colonisation schemes, where 30 percent of the expenditure on colonist's allotment is on social services. While much of this investment is socially justifiable as 'human investment', the fact that the land cannot be developed and cultivated without such a large measure of non-productive expenditure, necessarily raises the cost of this type of development and makes it suffer in comparison, in economic terms, with other types of investment.

Secondly, since capital output ratio of irrigated colonisation schemes is high and is of a capital intensive nature, the country can ill afford to undertake such projects at the present stage of capital scarcity. There is also a long gestation period which according to previous experience varies from 10-18 years.

Thirdly, these projects are also slow yielding. Many of these projects do not pay back their full cost to the country even after 50 years. This is largely due to the heavily built-in social service element, as well as to the manner of their execution. A detailed appraisal of two typical projects, viz: Mahakandarawa and Rajanganawewa schemes has revealed that their benefit cost ratios are 0.56 and 0.67 respectively (project costs being amortised over 50 years). It has been found, however, that these projects do not yield an economic return even over a period of 100 years.

Fourthly, almost the full capital cost of these schemes is borne by Government. This is a disadvantage at a time when Government is pressed for capital resources. In such a context, investments with heavy private sector participation, or built-in self-help components, should be preferred.

Finally, Government gets no financial return from these schemes. Since Government is now pressed for capital resources, and since there are now competing fields of investment, the question of financial returns is of immediate importance. In fact, since this has proved to be the main field of development investment in the past, the possibility of sustained investment in this or any other field in future, would depend on the availability and rate of financial returns from these schemes.

It is thus clear that a re-orientation of policy is needed in the field of agriculture. Firstly, a shift of emphasis is required to less capital-intensive, more profitable and quicker yielding projects with a view to making an immediate impact on our food and foreign exchange problems. Secondly, since long-term projects must also be continued, adequate provision must be made for maximising their contribution to the national economy by—

(i) ensuring a faster rate of progress;
(ii) reducing their cost;
(iii) increasing their economic benefits; and
(iv) ensuring an adequate financial return to government, from these schemes.

The need for Planning and Investigation

Irrigation and land development schemes are essentially agricultural schemes whose economics depend on the use to which the land and water under them are put. The success of any such schemes would, therefore, depend on adequate long-term investigations, and on adequate planning of land and water use under them.

Firstly, a comprehensive land use survey would be necessary. Such a survey has been undertaken, and has covered approximately three-fifths of the Island. This is to be completed as soon as possible with additional staff.

Secondly, an island-wide soil survey is necessary. Such a survey is now in progress and has covered approximately one-third of the Island. Every effort will be made to complete this survey within the programme period if necessary.

Thirdly, it is necessary, from the data collected from the land-use and soil surveys, to undertake studies of the economics of the various types of land-use and cropping programmes so as to enable the adoption of the most economic utilisation of land and water with maximum returns to the economy.

Fourthly, it is necessary to explore the availability of ground-water resources to determine the possibility of the maximum development of highlands by lift-irrigation from tube wells. The availability of water at practically exploitable depths in the dry zone will be a decisive factor in the establishment of a stable, virile and diversified system of agriculture in that region. Government has therefore decided to undertake immediately a survey of ground-water resources in the dry and arid zones with the help of technical assistance where necessary from countries with experience in this field.

In order to undertake these studies, and to plan future irrigation, land development and colonisation schemes, the Government has decided to set up a Natural Resources Planning Unit under the Ministry of Agriculture, Lands, Irrigation and Power. The establishment of such a Unit was recommended by the Land Commission in its report of 1958. This will be a supra-departmental body to plan the utilisation of land, water, minerals and other resources in the best long-term interests of the country.

It is necessary to set up a central water resources planning authority that will plan the utilisation of our water resources as between competing demands such as agriculture, domestic use, sanitation, etc., in the overall national interest. The establishment of such a Board was recommended by the World Bank Mission in 1952 and by a Consultant in Water Resources Planning in 1958. This Board will be affiliated, or closely related to, the Natural Resources Planning Unit.

In order to carry out the economic studies connected with land and water use, and other problems connected with agriculture, Government has decided to set up a Bureau of Agricultural Economics which will be associated with the Department of National Planning in economic studies relating to agricultural projects and programmes. Government will also send abroad for training in agricultural economics 6 to 10 officers from the Department of Agriculture and the Department of National Planning. On their return, these officers will be attached to the Bureau of Agricultural Economics, the Ministry and Department of Agriculture, and the Department of National Planning. It is also necessary to make provision for the study of agricultural economics in this country, and the possibility of introducing it as a special subject for the economics degree in one or more of the Universities, needs to be pursued.

Planning and Execution of Irrigation Programmes

Advanced Planning:

It is necessary to ensure that detailed investigations of the irrigation and construction aspects of any scheme be completed before it is taken up for construction. This has not always been done in the past. As will be seen latter, although it has been possible to undertake more works by not insisting on full investigation, these works have not been completed any faster than they would have been had they been fully investigated and properly planned prior to construction.

An irrigation or land development scheme becomes economic or uneconomic not merely by economy in planning and execution, but also by the use to which the land and water under the scheme is put. Thus, any scheme however economic, would be rendered completely uneconomic if the land is cultivated with an uneconomic crop, or the water wastefully used. The establishment of the Natural Resources Planning Unit and the Water Resources Board will ensure that all future schemes are conceived primarily as agricultural schemes, and that the irrigation, land development and agricultural aspects of the scheme are planned in an integrated manner. No scheme will be approved for construction until the economic aspects of the scheme are approved, and accepted as being the most economic of the alternatives proposed, and desirable in the context of the overall development programme of the country.

Reduction of costs and increase in rate of provision of irrigation facilities :

A reduction in the cost of irrigation can be achieved firstly by rational planning and phasing of construction. A work can be constructed at minimum cost if it is phased over the optimum period for construction. If a project drags on for a longer period than necessary, the costs both of construction and interest payable on capital, will necessarily be increased. Moreover, the prolongation of the construction period will mean a denial of benefits from the scheme for the longer period of construction. For instance, the Rajanganawewa project, had been phased over a period of 18 years which is considered to be too long. Assuming a reasonable period of 8 years for the completion of the project, the saving on interest charges would amount to Rs. 30 million of the total estimate of Rs. 31 million. Similarly, the loss of potential income and the foreign exchange saving from the paddy that could have been produced from this scheme had it been completed earlier will be bound to amount to almost the full cost of the work.

It is, therefore, clear that substantial economies can be achieved if projects are constructed over the optimum period. This has not been possible in the past since, due to the Government decision to undertake the maximum number of works, more works have been taken up than could be handled at any one time. Since the Department of Irrigation already has on its hands committed works to the value of Rs. 357 million, and since this represents more work than the Department can handle effectively at a given time, the Government has decided in principle that no more new works will be approved for construction till a large part of these committed works is completed. Government has further decided that even approved projects which have not been commenced will be dropped from the construction list for the present. When part of the back-log is cleared, and new works can be taken up, the priority to be given to these suspended works will be determined in relation to other new projects which may be proposed at that time.

Further, in view of the back-log of committed irrigation works amounting to Rs. 357 million (involving a further land development investment of approximately Rs. 178 million), Government has decided to review the programme of construction with a view to stopping work on schemes which have just been commenced, so as to divert resources, personnel and material for the speedy completion of works which are at a more advanced stage of construction. Despite some measure of immediate loss as a result of this shift, it is felt that such a step would result in a larger irrigable acreage being made available in the next five years than would otherwise have been possible, the benefits from the additional acreage so made irrigable outweighing the temporary loss due to stoppage of work on the former schemes. While undertaking this course of action Government is fully aware of the need for ensuring a continually increasing irrigable acreage in the years beyond the five-year period, and would therefore resume work on suspended projects or undertake such new works as may be necessary to ensure this continuity.

In order, moreover, to complete projects during the shortest possible period Government has decided that in future, work on the headworks of irrigation schemes will proceed simultaneously with work on the channel system, since there is no point in completing the reservoir early if the channel syetem will not be ready for use for years to come.

A reduction of costs and an increase in the rate of construction can also be achieved by economies in the process of construction. This can be achieved firstly by shifting the burden of some part of the construction from the Government to the colonist's shoulders. In India, for instance, the beneficiaries under a scheme construct or pay for the cost of the field channels themselves, and water is provided to blocks of 100 acres or more. Government has, therefore, decided that colonists should be required to construct a reasonable length of the field channels themselves, and that the practice of providing individual pipe outlets to individual fields, be abandoned. It is felt that this departure will greatly hasten the rate of provision of irrigation facilities, and will provide a saving to Government of approximately Rs. 400 per acre irrigated.

In the same way, the rate of construction of irrigation works can be speeded up if a greater quantity of work is let out to private contractors. It is felt that such a course would relieve the Department of Irrigation from some of its existing burdens, thus enabling it to undertake effectively a greater number of works at reduced cost. Such a course of action will, however, necessitate the building up of an effective contract system, for which big contractors will be given a clear prospect of increasing work being made available, so as to encourage them to invest in machinery required for large-scale construction.

The comparatively high cost and slow rate of progress of construction by the Irrigation Department is also partly attributable to the fact that it is compelled to carry large cadres of permanent unskilled labour, whose cost is high and whose output is low. Government has, therefore, decided that surplus labour from the Irrigation and Land Development Departments be reduced, and found alternative employment wherever possible.

Another factor inhibiting the speedy construction of irrigation has been the stipulation (in the interests of the co-operative movement) that irrigation and other construction work should necessarily be given on contract to Co-operative Societies wherever such Societies are willing to take up construction. In the undeveloped and underpopulated areas where irrigation and land development schemes are under construction, effective Co-operative Societies are not always in existence. This has led to a number of mushroom Societies accepting contracts which they are not able to fulfil, or becoming fronts for private contractors who desire to exploit this monopolistic situation. Government has, therefore, decided to waive this requirement so as to enable the Irrigation Department to give the work to private contractors where it is in the interests of efficient and expeditious completion of the work.

It is also felt that there is scope for reduction of costs by way of reduction of rates paid by the Irrigation Department for construction. Although a reduction in rates has been achieved in the past few years it is felt that a further reduction is possible. Government has, therefore, decided to establish a Committee consisting of technical persons presided over by the Government Agent of each district, to fix limits to the rates payable for various types of work in each district or division.

A reduction in costs and an acceleration of progress in the provision of irrigation facilities can also be achieved by taking up more economic, and more early maturing types of schemes for construction in preference to more capital intensive types. It will usually be found that the pro rata cost of irrigation will be lower in the case of augmentation schemes than in the case of construction of new works. Hence preference will generally be given to the former provided pro rata costs are lower, and new crop acreages are brought under cultivation.

The pro rata cost of providing irrigation facilities under major irrigation schemes in Ceylon today is approximately Rs. 2,500 per acre. If the cost of administration and overheads were added to construction costs as is done in most other countries, the cost per acre would be considerably increased. On the other hand, the cost of irrigation under minor schemes constructed by the Irrigation Department varies between Rs. 750 to Rs. 1,000 per acre. This compares very favourably with the cost under major schemes, and despite certain disadvantages (such as shorter life, and greater susceptibility to evaporation—loss in relation to capacity) these schemes deserve a greater degree of priority than that which has been accorded in the past. Two lines of action are therefore necessary. Firstly, the reasons for the wide disparity in costs between major and minor schemes need to be investigated with a view to reducing costs under the former. Secondly, since the intention is to provide irrigation facilities at a cheaper and a faster rate, greater attention will be paid than in the past to the construction of minor irrigation schemes by the Irrigation Department both by way of provision of staff as well as by the provision of funds. With this end in view, Government has also decided to provide more funds and technical staff to the Department of Agrarian Services, which also undertakes the construction of minor irrigation works on a smaller scale.

From the economic point of view, it is also desirable to undertake irrigation works which result in new crop acreages being cultivated for the first time. In the same way, preference will be given to works which result in additional crop acreages being cultivated for a second season. This is not to say, however, that existing lands will be denied irrigation improvements which will result in additional, or in improving cultivation.

Insufficient attention has been paid in the past to the possibility of lift-irrigation as it has not been considered economic. But whereas lift-irrigation may be uneconomic for paddy cultivation (which is extravagant in the use of water especially under present systems of cultivation), lift-irrigation for highland crops is a distinct economic possibility. In the light of the programmes for the cultivation of subsidiary crops, lift-irrigation becomes not merely economic, but also a pre-requisite for the development of a diversified system of agriculture.

Similarly, sufficient attention has not been paid to the possibility of irrigation from tube wells, as there has not been sufficient knowledge in regard to the availability of ground-water resources. The Government has therefore decided to undertake a survey of ground water resources in the dry and arid zones, with a view to introducing tube wells for irrigation if a sufficient quantity of water is found to be available at economically exploitable depths. Pilot projects will also be introduced for lift-irrigation by windmills in areas where wind velocity and consistency is found favourable during the dry months of the year.

Improving the economics of Irrigation Schemes by obtaining increased benefits by more rational use of water:

One of the main principles of this Three-Year Programme is to use existing capital and capacity to the maximum advantage. It would not be rational at a time of capital scarcity to create additional irrigation capacity at great cost, and then to use the water wastefully so as to irrigate only part of the area that could be irrigated with that capacity. It is an accepted fact that the consumption of water in paddy cultivation in this country is excessive. It has been estimated that 30 inches of water is all that is required for maturing a crop of paddy in the dry zone. During the *maha* season, there is a rainfall of 40 to 50 inches in most parts of the dry zone, fairly well spread out over the four months of the cultivation season. In addition to this, however, the average intake of irrigation water to paddy fields in this area in this season is approximately 3 to 5 acre feet (36 to 60 inches). The fact that paddy can be cultivated with available rainfall in the *maha* season is shown by the extensive rainfed cultivation in many parts of the dry zone. In fact, there is little difference between the yields of irrigated and unirrigated crops. Allowing for a greater degree of crop failure on rainfed lands it hardly works out from 15 to 20 per cent. during *maha*. It should therefore be our general aim to cultivate the *maha* crop more or less as a rainfed crop with only supplementary irrigation in time of need, with a view to conserving the greatest possible amount of water for *yala* cultivation.

The extent to which economies in water use can be effected in this manner can be seen from the following figures showing duty of irrigation on government farms in the dry zone.

TABLE 24.—DUTY OF IRRIGATION ON GOVERNMENT FARMS

Govt. Farm	*Yala*			*Maha*		
	Irrigation	*Rain*	*Total*	*Irrigation*	*Rain*	*Total*
Batalagoda	2·2	2·2	4·4	1·6	3·4	5·0
Paranthan	4·1	0·3	4·4	0·9	2·7	3·6
Anuradhapura	1·7	1·3	3·0	1·3	2·5	3·8
Tabbowa	—	—	—	2·4	3·2	5·6

The average duty for *maha* will be observed to be 1.6 acre feet per acre on these government farms, as compared to an average duty of 3 to 5 acre feet on cultivators' fields during the same season. If cultivators could be induced to use water more economically, it would be possible to crop an additional acre for *yala* from the saving of water effected on every 2 acres of *maha* cultivation. There are 334,850 acres under major irrigation schemes and 422,640 acres under village works. * On the assumption that an additional acre could be cultivated for *yala* for every two acres cultivated for *maha,* it would be possible to bring under cultivation an additional crop acreage of at least 150 thousand acres under major schemes with no extra investment. A further acreage could be found under minor schemes. At the present rates of construction and costs of the Irrigation Department, it would take approximately 15 years at a cost of more than Rs. 350 million to provide irrigation to this additional crop acreage under major irrigation schemes.

Government, therefore, intends to take action on the following lines to effect a more rational use of water :—

(i) An intensive propaganda drive will be carried out by the Agricultural Extension Services to persuade cultivators to exercise greater economy in the use of water, and cultivators' organisations like Cultivation Committees will be encouraged to undertake both propaganda and control ;

(ii) cultivators will be encouraged to sow early with the rains (so as to avoid wastage of water in mudding their fields), by providing the incentive of crop insurance to cover their losses in case of subsequent failure of the rains ;

(iii) tractor ploughing will be encouraged to facilitate dry sowing. The difficulties of under-utilisation of tractors in the off-season which is a manifestation of the existing practice of paddy monoculture for one season only, can be overcome by the diversification of cultivation and by the increased cultivation made possible in the *yala* season ;

(iv) the introduction of a weedicide (which has been found effective on paddy fields) as a means of controlling weeds, so as to discourage the practice of flooding fields for the purpose of weed-control ;

(v) charging of an economic irrigation rate. An economic water rate is the only means of making the cultivator conscious of the cost of irrigation and sparing in the use of water. At present, there is a tendency on the part of the cultivator to consider water a free commodity which he is entitled to draw upon in limitless quantities ;

---

* **Source : Administration Report of the Director of Irrigation.**

(vi) Government will strictly enforce existing rules with regard to last dates of sowing, last dates of water issue etc. Popular pressure and political interference have, in the past, militated against the strict enforcement of these rules in the interest of the cultivator and the country. The administration will be strengthened to enforce these rules in the common interest ;

(vii) the Government will introduce amendments to the Irrigation Ordinance to enable a tightening of control in the issue and use of water. Further amendments will be introduced under the Paddy Lands Act and Irrigation Ordinance to enable Cultivation Committees to enforce irrigation rules, and effect economy in the use of water within their areas.

Another way of maximising benefits from existing irrigation capacity is to encourage the cultivation of crops which provide the greatest economic returns by way of income, employment and foreign exchange saving, per acre of land and per acre foot of water. Apart from the wastefulness of water-use today it is generally accepted that paddy is a crop which is extravagant in the use of water in comparison to other crops. This can be seen from table 25 which compares the consumption of water in paddy cultivation with that in other crops.

TABLE 25—DUTY OF WATER—SUBSIDIARY CROPS IN YALA

	Duty in acre feet			
Paddy	5 acre feet (8 acre feet actually used)			
Chillies	3½ to 4 acre feet			
Beedi Tobacco	3½ to 4	,,	,,	
Red Onions	1½ to	,,	,,	
Bombay Onions	1½	,,	,,	
Sorghum	2½	,,	,,	
Sugar Cane	3	,,	,,	(for Yala only)
Sugar Cane	5½ to 6	,,	,,	(for entire growing period of 18 months)

It is clear that if other crops were to be cultivated instead of paddy with irrigation capacity now available, a greater acreage could be irrigated at no extra cost.

The line of development needs to be extended for other reasons too. Not only are these crops more economical in the use of water, they are also more economic in terms of income, employment and foreign exchange saving. This can be seen from Table 38 which compares various crops in the light of these criteria.

Government has, therefore, decided that the cultivation of subsidiary food crops should be encouraged in preference to paddy cultivation under future land development schemes. An increase in the acreage under paddy and an increase in total production will, however, be sought by other means.

Since it might be difficult to persuade cultivators under existing schemes to switch over the crops other than paddy, and since their puddled paddy lands may not prove suitable for cultivation of these other crops it is necessary :—

(i) to ensure that allotments under new colonisation schemes are laid out in such a manner that irrigation will be provided to paddy as well as other lands to enable them to be cultivated with the most economic crops.

(ii) to alienate the lands under such new schemes on the condition that both land and water are provided only for the cultivation of specified crops. This will be stipulated in the permit of alienation.

(iii) to adjust agricultural prices in such a way that cultivators are encouraged to grow the most economic crops from the point view of the country, and from the point of view of their own interests.

In view of the urgent need to bring about a diversification of agriculture and an increase in the returns to the national economy from these schemes, Government has decided to take action on the above lines in regard to all colonisation schemes to be opened up in future.

Increasing the Financial Return to Government from Irrigation Schemes

It has not been the practice in the past to recover from the beneficiaries any part of the capital cost of an irrigation scheme. In principle, the intention was only to recover the cost of maintenance by charging a maintenance rate. Due to the increasing cost of irrigation, however, it is now found that the irrigation rate of Rs. 5 charged under new major irrigation schemes represents less than one-third the actual cost of maintenance of these schemes. In many cases, even these meagre rates have not been recovered. It may be mentioned in this connection, that in India, where the average cost of construction of major irrigation works is found to be very much lower than Ceylon, irrigation rates charged for paddy cultivation are, on an average, two or three times higher than in Ceylon, although the amount of water consumed per acre is much less. It is also relevant to mention that in regard to other more remunerative crops, an irrigation rate of ten to twenty times that charged in Ceylon is levied in certain states of India, the minimum rate representing a 2 to 4 percent return on capital, in addition to maintenance and administration costs. With a view to obtaining some financial return, and with a view to inducing economy in the use of water by cultivators, Government has decided to charge an economic irrigation rate under all irrigation schemes.

In regard to minor irrigation works, the present system is that maintenance is supposed to be done by cultivators and not by government. In practice, however, it has been found that the cultivators have been lax in the fulfilment of their maintenance obligations. This has resulted in a large number of village works going in to disrepair, with consequent damage to bunds and often breach of the tanks themselves. In most of these cases, government has had to step in to restore or repair the works concerned. To avoid this additional burden being cast on government, it has decided to strictly enforce the maintenance obligations of proprietors under the Irrigation Ordinance.

It must be emphasised that the question of financial returns is no longer an academic one. It is becoming increasingly obvious that in the light of the high capital cost of these works, failure to obtain such financial returns will only mean that future investment in this or any other field, will become increasingly difficult.

Planning and Execution of Land Development and Colonisation Schemes

Review of land policy and evaluation of its results:

In the field of land development and colonisation too, it will be seen from table 22 at page 119 that although investment has been increasing, the number of allotments cleared and colonised have not shown any appreciable increase. In view of the increasing pressure on capital resources, it is not likely that the financial provision made in the current year can be significantly improved upon. In terms of the capacity of the executing departments, too, the limits of capacity under present executing policy appear to have been reached.

Government has, therefore, decided to undertake a review of land policy with a view to evaluating its results in terms of its expenditure, and the purposes for which this expenditure was incurred. The task of undertaking such an evaluation will be entrusted to the Department of National Planning in terms of the recommendation of the Land Commission.

Need for Advance Planning of Land Development and Colonisation Schemes:

The need for long-term studies and advance planning in regard to land policy and land use has been stressed earlier in this Chapter.

In conformity with the three-fold approach of this Programme, it is in the meantime necessary to bring about certain changes in land development and colonisation policy with a view to:—

(i) Reducing costs of land development and colonisation

(ii) Ensuring a faster rate of progress

(iii) Ensuring maximum returns from such schemes to the national economy by the better utilisation of land and water

(iv) Securing adequate financial returns to Government to enable continued re-investment in this field

Reduction of costs and acceleration of Programme of Land Development and Colonization Schemes:

It has already been mentioned that a strong social service element underlies investment in the land development sector. Such a strong social service element was justified during the period when the Dry Zone was isolated, ill-roaded and malaria-ridden, and when it was impossible to attract colonists to these schemes on any other basis. The Land Commission of 1958 pointed out that these obstacles no longer operated, and stressed the need to distinguish clearly between schemes which are meant as social service projects (which are not considered to be economic) and schemes which claim investment on an economic basis. The first step in reducing costs, therefore, is to distinguish, and to reduce as far as possible the social service element, so as to make these schemes more economic.

An examination of the capital expenditure of the Land Development Department reveals that 67 percent of its total capital budget is devoted to social services, namely, to housing, construction of hospitals, schools etc. The social service component of Village Expansion Schemes constitutes at least 82 per cent of the investment on such schemes, while 30 per cent of the investment on colonisation schemes is by way of social services —such as housing, schools, hospitals, etc. The provision of many of these social service amenities are an essential prerequisite for the settlement of a colonist in the dry zone, and this is an inevitable built-in component of the present pattern of land development.

A detailed examination, however, reveals that the scale of assistance that was originally provided under these schemes is no longer required to attract colonists to these schemes. For instance, Government provides cottages for colonists at a cost of approximately Rs. 3,300 each. But under

Village Expansion Schemes, allottees construct their own houses, with a cash grant of Rs. 750 to Rs. 1,000 from Government. Government has accepted the principle of a reduction in the subsidy for housing under colonisation schemes on the lines of the above principle.

In the same way, a reduction in the cost of land development is possible. Under the system of advanced alienation, the colonist is settled in the scheme two years in advance of the provision of irrigation facilities, during which time he develops his allotment with the help of subsidies by Government approximating to slightly less than the cost of development. The Government has accepted the principle of a reduction in these subsidies. Similarly a reduction in the cost of construction of roads and civic buildings will be obtained by eliciting a greater amount of self-help participation from the colonists themselves.

The policy of 'advanced alienation' is intended to ensure a faster rate of development at a lower cost. Due to the lag in the provision of irrigation facilities, extended subsistence to the value of Rs. 4.3 million has in fact been paid over the last 6 years to enable colonists to subsist until irrigation facilities were provided. This system, however, has the potential advantage that it enables performance of land development operations by the colonists themselves, at costs lower than achievable by the Land Development Department. Moreover, the earlier settlement of the colonists enables the country to reap the benefits of two or three extra cultivators prior to the provision of irrigation facilities. The gains of this additional cultivation will prove to be greater than the losses incurred by the lag in the provision of irrigation facilities. The scheme of advanced alienation will therefore be continued, with greater attention being paid to proper co-ordination with the irrigation programme, and and greater economies by way of reductions of subsidies payable under these schemes.

House construction, road construction and certain aspects of land development operations are now performed by the Department of Land Development. The handing over of much of this work to private contractors—which is already being done—will enable a faster rate of progress with considerable reduction in cost. Such a system will also have the advantage of releasing Land Development Department staff for undertaking other construction work in the public sector.

Increasing the benefits to the national economy from Land Development and Colonization Schemes:

As in the case of irrigation projects, the long-term benefits to the national economy from land development and colonization schemes will depend on the extent to which they are properly planned from the point of view of land and water use. This presumes greater attention being paid to long-term planning. The basis for this is to be laid with the establishment of the Natural Resources Planning Unit, the Water Resources Board, and the execution of the proposed long-term investigations such as the land-use, soils, and ground-water surveys. In future, the engineering surveys and the soil survey of the land will be done simultaneously and the results indicated on the same survey maps in order to make the best use of the land. Meanwhile it is quite clear that the only means by which increased incomes can be obtained from these schemes is by improving the standard of agriculture by intensification and diversification.

This necessitates, on new colonization schemes, the application of new principles and patterns of settlement. The present allotments are laid out on the basis that all irrigable land is paddy land (regardless of whether the land belongs to a land-class suitable for paddy) while all other crops are not allowed the benefit of irrigation. This rigid dichotomy between paddy lands on the one hand, and highland on the other, has been arbitrarily imposed on the land itself, resulting on the one hand, in land which is not best suited for paddy being cropped with paddy, while on the other, land suitable for cultivation of other more remunerative crops is left in a permanent state of non-cultivation. This is, to say the least, a system of land use not based on any sound agricultural principles. Nor is it based on economic principles in that land and water is lavished on paddy cultivation although the income and employment generated by it is low in comparison with that of other crops. It is, therefore, necessary that future colonization schemes should be laid out on the basis of a sound land classification, land being devoted to paddy cultivation only when belonging to the appropriate land class of imperfectly-drained soils. All other land (except land reserved for highland grain cultivation and pasture) should be provided with irrigation for the cultivation of crops most suited to it.

The present layout of colonization schemes is unsatisfactory from a social point of view too. The provision of 2 acre highland allotments with a cottage in the centre, has led to the dispersal of houses in colonization schemes. This militates against social cohesion, community feeling, and the economic provision of communal facilities. It is therefore proposed to lay out allotments in future colonization schemes in a different manner. It is necessary to stress the need for flexibility in the planning of these schemes, and the layout indicated below is only a guide to future patterns of settlement which will be finalized by the Natural Resources Planning Unit. A homestead of half acre will be provided for the house and garden of the colonists. It is proposed to locate the houses close together for social compactness and provision of utility services like water and power. Irrigable land on well-drained soils will be provided (in addition to paddy land) to each colonist for the cultivation of subsidiary food and cash crops.

The proposed change will minimize the wastefulness of the present system of land use and will permit the diversification of agriculture on these schemes.

Accent on new colonization schemes will be on the diversification of production. This is to be accompanied however, by intensification of cultivation of paddy lands. It is felt that a reduction of the paddy allotment would be likely to lead to an intensification of cultivation, and greater economy in the use of water so as to enable a second cultivation as well as the irrigation of upland for the cultivation of subsidiary crops. To accelerate this process of intensification and diversification Government will also devote a large part of its agricultural extension efforts towards the achievement of these ens under these schemes.

In order to ensure the maximum development of the colonists' allotment, it is necessary to provide the colonist with an incentive for development by way of a stake in his land. Under the present system of tenure under the Land Development Ordinance, the land never becomes the colonist's outright property. Allottees are also unable to obtain private loans to develop their lands as the present system of tenure affords no security of title. Government has accepted in principle the recommendations of the Land Commission whereby allottees could get an outright grant of the allotment on payment of the cost of development in instalments spread over a period of years.

Increasing the financial returns from land development and colonization schemes to Government

A colonist's allotment costs the government approximately Rs. 15,000 to Rs. 18,000 *. At present the only recoveries are an annual payment of Rs. 20 per acre under the new colonization schemes, and Rs. 10 per acre under the older ones. This charge does not represent any capital repayment. Nor does the irrigation rate represent a return on the capital investment in irrigation. These payments therefore do not even cover the cost of maintenance and administration of these schemes. Nor are they regularly collected.

The Land Commission Report of 1958 recommended that the full cost of colonisation allotments and 75 per cent. of the cost of village expansion houses and allotments be recovered from the beneficiaries in return for a grant of outright ownership. Government has accepted this recommendation in principle, and will consider shortly the percentage of the cost to be recovered and the other essential conditions to be attached to the grant of outright ownership. Action in this direction is urgently necessary as the

---

* The average cost per allotment under the Mahakandarawa and Rajangana Schemes works out to Rs. 17,600 inclusive of interest charges. This does not however include the administration costs of the Department of Irrigation, Lands Developments and Land Commissioner.

possibility of re-investment in new schemes of this nature will ultimately depend to a great extent on the return to government from these schemes. At present, these colonization allotments represent a growing financial burden on government which, it can ill-afford at this stage of our economic development.

It is also felt necessary—in accordance with the recommendation of the Land Commission—to apprise Parliament and the public of the costs of land development and colonization. It is therefore intended to maintain a separate account for each major and highland colonization scheme, showing the full cost of development, the returns therefrom, the annual payments and irrigation rates charged, and the amounts actually recovered.

Alternative means of developing the Dry Zone

The survey of progress and cost of irrigation and land development serves to show that only 10,000 acres approximately are developed each year in the Dry Zone. It has to be accepted therefore that the achievements of the traditional method of irrigated colonization have not been such as to make a significant impact on our problem of food imports and employment. It is also quite clear that the limits of physical capacity of the implementing departments on the lines of present policy having been reached, no great improvement in this rate of progress can be expected. On the other hand, it has also been seen that it is unlikely that in the future, larger sums can be made available to this sector than in the past. There is therefore an urgent need to evolve some new method of opening up the Dry Zone at a more rapid pace and at less cost, as it will otherwise be necessary to discount the possibility of any significant contribution from new lands in the Dry Zone to our immediate problems of economic development.

The research work done at the Dry Zone Research Institute at Maha Illuppallama gives promise of the evolution of such a method. Research at this Institute has shown that many crops can be grown without irrigation in the Dry Zone during Maha (and some crops during the Yala season) on the basis of a proper land classification. The development of animal husbandry also provides a basis for a profitable system of mixed farming in the Dry Zone. This however is on patterns of land use and management difficult of application within the present pattern of peasant colonization. The findings of this Institute are not conclusive, but they indicate a strong possibility of profitable large-scale mechanised farming on a diversified basis in the Dry Zone.

Government has, therefore, decided to introduce immediately a pilot project for commercial cultivation on the basis of the system of mixed farming evolved at the Dry Zone Research Institute. The project will be confined to 2,000 acres in the first instance, but will be expanded if there is good response from the private sector. The land will be alienated to middle class co-operative societies, commercial companies and other organizations for commercial farming on a mechanised basis. The necessary incentives will be provided by way of long-term loans, tax concessions, and guaranteed prices. The provision of access facilities and the restoration of any minor tanks in the area, will also be undertaken by government, the cost of the latter being recovered in instalments over a period of years.

Programme of Investment in Irrigation and Land Development:
It will be seen from the above that Government is in the process of bringing about a fundamental change in irrigation, land development and colonization policy. The change will not, however, reflect itself within the Three-Year Programme period in terms of altered financial provision or increased output. This is so for the following reasons. Firstly, it is not the Government's intention to reduce provision immediately on irrigation and land development schemes. Although one of the main aims is to reduce cost, financial provision will not be reduced in the next 2 years as it is intended to increase the rate of progress under these schemes. Secondly, the Government is already committed to irrigation works to the value of Rs. 357 million, and land development work to a further value of Rs. 178 million. Even if work is to be suspended on some of these, every effort will have to be made to complete the remainder as quickly as possible. Thirdly, it will take some time for the relevant Departments to re-adjust their programme to the new line of development envisaged above. Lastly, most of the improvements to be effected are of a policy or organisational nature which will reflect themselves not in immediate reduction of provision, but in increases of output beyond the programme period. Alteration of financial provision is therefore, not called for at this stage, but will be reflected in the next Three Year Programme of Government.

The proposed investment in irrigation, land development and colonization for the years of the Programme period is given in Table 26.

Table 26.—Investment in Irrigation Land Development, Colonisation & Village Expansion in the Programme Period

Rs. millions

Year	*Irrigation*	*Land* Development*	*Colonisation*	*Village Expansion*	*Total Investment**
1961/62	31·465	18·057	2·145	12·119	63·786
1962/63	32·000	10·899	1·748	10·425	55·072
1963/64†	42·000	19·500	2·000	12·125	75·625

* Excluding investment under highland colonization and GODB.

† Investment figures for 1963/64 are tenative and have not been finalised.

On the besis of the altered irrigation and land development programme, however, it is expected that there will be an immediate increase in the number of irrigated acres and allotments to be made available in the next two years. The programme of irrigation and development of allotments is set out in Table 27 for the Programme period.

Table 27.—Area brought under Irrigation and alienated under colonisation and the programme for 1962 *to* 1964

'000 *acres*

	By end of 1961	1962	1963 (*Programme*)	1964	*Total at the end of* 1964
A. *Irrigation—*					
1. By Department of Irrigation under—					
(*a*) Major colonisation schemes		9·7	13·1	17·3	386·5
(*b*) Village expansion schemes	334·8	2·3	3·6	4·7	389·0
(*c*) Village works	422·6	2·0	2·0*	2·0*	428·6
2. By G. O. D. B.—					
(*a*) Major colonisation schemes	38·3	4·8†	11·5	8·7	63·3
3. By Department of Irrigation and G. O. D. B.—		17·0	25·6	26·0	452·3
(*b*) Village Expansion Schemes	373·1	2·3	3·6	4·7	
(*c*) Village works	422·6	2·0*	2·0*	2·0*	428·6
Total	795·7	21·3	31·2	32·7	880·0
B. *Irrigable lands alienated under colonisation schemes :*					
(*a*) By Department of Land Commissioner	116·8	6·0	6·0	9·0	137·8
(*b*) By G. O. D. B.	22·1	3·9	11·3	8·5	45·8
Total	138·9	9·9	17·5	17·5	183·6
C. No. of colonists settled under major Colonisation schemes by Land Commissioner	36,000	2,223	2,000	3,000	43,000

* Estimates based on past trends.
† Actual.

For the actual achievement of the aims of this change of policy, a new approach is required on the part of Departments dealing in this field, and of the cultivators under these schemes. Ultimately, the intensification and diversification of cultivation which is the only means by which returns from these schemes can be increased, will depend on the attitude of the cultivators themselves. Time is required for the dissemination of new ideas and the development of new attitudes. The effect of improvements in the Programme are not likely, therefore, to be felt within the period of the Three Year Programme. This period must, therefore necessarily be viewed as a period of transition to the development of new policies, new attitudes and goals.

CHAPTER 12

NON-EXPORT AGRICULTURE

I Institutional Factors

The review of land development in the preceding section shows that not much can be hoped from it towards a solution of our food and foreign exchange problems in the short run. Hence if we are to make an immediate impact on our increasing food import bill, the remedy must be sought elsewhere—from schemes and projects which are not highly capital consuming, and which will yield substantial results within a short period. Of course, every effort will be made to utilise existing developed land and existing irrigation resources to maximum benefit and to achieve a break-through to greater production through policy, institutional and organisational changes, wherever necessary.

The largest increase in output can be achieved in the shortest time by increases in yield through the adoption of improved methods of cultivation. But the extent to which improved practices will be applied on present small holdings will depend on the institutions, incentives and services provided to cultivators. It will be apparent from the foregoing, that what is most important today in the non-export agriculture sector is not so much investment, but policy and organisational changes which will provide the institutions and incentives for intensification and diversification of agriculture. The institutional basis for an advance in this direction has been laid since 1956. It has been recognised that in a smallholder's economy, an equitable tenurial system, a fair price for agricultural produce, insurance against crop failure, adequate agricultural credit, a sound extension service, and a scheme for the multiplication of pureline seed, are essential pre-requisites for the adoption of improved methods of cultivation. These needs have already been provided in the form of the Paddy Lands Act, the Guaranteed Price Scheme, the Crop Insurance Services and the scheme for the subsidised issue of seed material.

A review of these schemes, however, shows that many of them have not adequately achieved their purposes due to want of effective legislation, policy decisions, administrative reorganisation, or adequate co-ordination by the agencies responsible for their implementation. The removal of these defects would not involve the Government in investment but would contribute to a substantial increase in output, greater than could be expected for some time from heavy investment in the land development sector. Government, therefore, proposes to utilise the instruments already in its hands, with improvements where necessary, so as to achieve the purposes for which they were established.

Land Tenure Reform

The basic condition for a stable and virile agriculture is a system of fair and rational land tenure. This is lacking to the extent that approximately 50 per cent of all paddy lands are held under lease hold or share-cropping arrangements* which provide little incentive to the cultivator to improve his land or increase his production. The position is aggravated by the problem of sub-division and fragmentation of holdings, and the lack of effective agencies for the management of paddy lands and the development of paddy cultivation on a tract-wise basis. The Paddy Lands Act was, therefore, introduced to—

(i) provide security of tenure to tenant cultivators ;

(ii) set up Cultivation Committees with a view to bringing about—

  (*a*) a consolidation of holdings ;

  (*b*) the development of irrigation ;

  (*c*) the development of paddy cultivation through the adoption of improved methods.

Due to defective legal provision, the Paddy Lands Act has not so far been able to achieve any of these aims. Government has, therefore, decided to bring in comprehensive amendments to the Paddy Lands Act at an early date. These amendments have already been introduced. The full provision of the Act has now been brought into operation in the entire country.

Meanwhile the Government intends to undertake with UN Assistance in 1964, an evaluation of the working of the Paddy Lands Act with a view to making further improvements in tenurial reform.

In regard to the system of tenure on Crown Lands, the Land Commission held the view that the tenure provided for under the Land Development Ordinance was not such as to provide an adequate incentive to allottees to develop their lands, since these lands do not become their outright property at any stage. Due to restrictions on lease and mortgage, it is also not possible for L. D. O. allottees to obtain private loans to develop their lands. The Land Commission, therefore, suggested certain changes in the tenurial system, whereby allottees are given an outright grant of the land (subject only to conditions preventing fragmentation), on payment to government of the full cost of development of the allotment, in instalments payable over 25 to 50 years. Government has accepted these recommendations relating to improvement in tenure and will give effect to them shortly.

Registration of Title

The system of land registration in force in Ceylon is one of registration of deeds. It is difficult and often impossible to identify a land from the description of it in the deed. Lands are often named after trees standing or which may have stood on them or from any of the numerous persons that may have lived on them. Gross frauds may be perpetrated under the present system by the deliberate insertion in a deed of the particulars of the land in such a way as to mislead the registration clerk to register it in the wrong folio. Uncertainty of title begets insecurity of tenure, and cumulatively the two engender indifference and litigation in regard to the land among the claimants. The development of land is thus retarded and the national economy impoverished. Confusion in title constitutes a serious handicap to the expansion of rural credit and to that extent it is an impediment to economic development. Besides all this, registration of titles will also go a long way in setting our agricultural statistics on a much sounder footing.

---

* Report on Paddy Statistics (Monograph No. 9, 1956).

A system of registration of title has long been overdue. Two Land Titles Bills introduced in Parliament some years ago have lapsed. They both had the defect of eliminating from their purview the registration of property rights in small agricultural holdings referred to by the World Bank Mission.

Fragmentation of Land

Even if registration of title to land is in operation, the question of future titles will still remain to be resolved. The Chairman of the Ceylon Banking Commission, which paid particular attention to this question from a banking point of view, observed:—

> " As soon as you determined the ownership of land, it would again be put into fragments under the existing law ".

Registration of title should, therefore, be undertaken only in association with a well co-ordinated scheme for the consolidation of small holdings and the prevention of future fragmentation.

In 1952, the World Bank Mission referred to this question in the following terms:—

> " It may be necessary, to prevent further multiplication of the abuses of insecurity and fragmentation, to take drastic action, and government may need to contribute financially either to the compensation of claimants or to the expense of litigation ".

The proper utilisation of land itself is retarded by fragmentation of land. As the Kandyan Peasantry Commission said: " There are several drawbacks to the proper utilisation of land. One of the main drawbacks is the fragmentation of land and joint ownership. Many peasants are either landless or own such fractional shares that the extents are either unworkable or are unprofitable to work...... The problem of landlessness is inextricably woven with fragmentation of holding and joint ownership, and should be attacked both by way of immediate relief and on a long term view ".

According to the 1953 census, some 591,852 acres of land in small holdings, town and village gardens and paddy remain uncultivated, representing as much as 32.8 per cent. of the total extent of cultivated land in these categories. Estates of 20 acres and above which remain uncultivated amount to 290,372 acres. A prime cause of this situation is fragmentation of land, divided ownership and uncertainty of title. The Kandyan Peasantry Commission gives us a classic instance of this in their report which records that as a result of co-ownership, some 1,500 acres of land in the village of Medabedde remain uncultivated still. In the districts of Kandy, Matale, Nuwara Eliya and Badulla, the average size of asweddumised paddy holdings varies from .6 to .8 an acre. These microscopic units involve an appalling loss of effort and national wealth.

It is considered necessary that the question of registration of title to land and the consolidation of small-holdings should be given very early attention as measures directly contributing to agricultural development.

Prices, Import Restrictions, Taxation, Subsidies and Marketing

Price policy, import restrictions, tax exemption, subsidy and marketing schemes can be manipulated to provide incentives to encourage increased production of commodities which are now imported. As different measures will be required for different crops, specific proposals will be made with regard to specific crops and products in the relevant portions of this Programme.

Crop Insurance

Crop Insurance is an institution which, by indemnification against the disincentive of crop failure, can contribute to the adoption of improved methods of cultivation. A Crop Insurance Scheme is already in existence as a pilot project, and in 1961 covered 25,300 acres. It is intended to extend its application over the three-year period to a total extent of 300,000 acres. The rate of extension thereafter will be determined by experience gained during this period. For the present the scheme will be applicable to paddy lands only.

The Crop Insurance Scheme, though it has considerable social significance, is primarily an instrument of development for encouraging cultivators to adopt improved methods of cultivation, practice early sowing, use pest control methods, etc. A scheme, has therefore, been introduced whereby a greater coverage is provided to cultivators who adopt certain specified improved practices of cultivation.

Since the implementation of this scheme would be jeopardised if cultivators defaulted in the payment of premia, government has introduced provision to enable their recovery from amounts due to cultivators for their paddy under the Guaranteed Price Scheme. This would strengthen the scheme by making it more or less self-recovering. At present the premium payable by the cultivator is subsidised by government to the extent of almost Rs. 6 per acre. It is government's intention to progressively reduce this subsidy as larger acreages are brought under this scheme, so as to make this scheme, as far as possible, self-supporting.

Agricultural Credit

Institutionalised credit has been provided for non-export agriculture mainly through Co-operative Societies. The Survey of Rural Indebtedness carried out in 1957 however, revealed that only 4.8 per cent of rural credit needs were met by Co-operative Societies. There has been no significant improvement in this position. The People's Bank has so far made little contribution to rural agricultural credit.

Moreover, the meagre institutionalised credit provided in the field of non-export agriculture has so far been undiversified. Credit has in the past been provided by co-operative societies mainly for paddy cultivation. This has been one of the factors contributing towards the paddy mono-culture that prevails today.

The provision of agricultural credit has however, not been effective even in the field of paddy cultivation. A recent sample survey of seventy-five co-operative societies in the Kurunegala District showed that under existing rules and procedures, not more than 10 to 20 per cent of the cultivators are in practice entitled to receive agricultural credit through the co-operatives. This was found to be mainly due to the following factors:—

(i) Approximately 40 per cent of all cultivators were not members of co-operative societies, and were, therefore, not entitled to receive loans therefrom.

(ii) Approximately 63 per cent of the members of co-operative societies were in arrears of payment of their share-capital, and were, therefore, debarred from receiving loans.

(iii) Approximately 13 per cent of the total membership were disqualified from obtaining loans on account of default in the payment of overdue loans.

(iv) A number of cultivators were not able to receive credit because the Societies to which they belonged were defaulters in respect of loans taken from Government.

It will be seen from the above that purely organisational and administrative factors are in part, responsible for co-operative credit not reaching even 20 per cent of the cultivators in the Kurunegala District. This is likely to be true of all districts.

Unlike commercial credit, agricultural co-operative credit is not given on security. What is required is that the borrowing society should be credit-worthy. This is decided by its past performance in repayment of loans. A close examination reveals that despite the lack of security on which agricultural credit has been provided, the repayment of loans has been comparatively satisfactory. Only 10 per cent of all loans granted since the commencement of the scheme of granting loans for agricultural purposes (i.e., since 1947) is overdue. This should be considered satisfactory in view of the fact that credit is now provided without any form of security. However, past overdues, and the possibility of default, continue to be decisive factors in restraining the rapid expansion of rural credit.

In the interests, therefore, of the cultivators themselves, Government has decided to use the instrument of the Guaranteed Price Scheme for effecting loan recoveries. In future, all dues whether in the form of share capital or loan instalments will be recovered from the amounts due to a cultivator from the sale of his paddy under the Guaranteed Price Scheme. This will enable immediate recovery of arrears of share capital and past loans, and will lead to a rapid expansion of agricultural credit which, in its turn, should have a decisive impact on production. Legal provision is already available under By-law 13 of the Co-operative Societies Ordinance to effect such recoveries, and all co-operative societies will be advised to adopt and enforce this rule. If this does not prove to be effective, Government intends to introduce legislation to effect compulsory recovery of all loans and dues from cultivators from the amounts due to them from the proceeds of the sale of their produce under the Guaranteed Price Scheme. This is necessary not only for the expansion of production, but also for the continued operation of these schemes for the benefit of the cultivator.

Since the solution of the problem of agricultural credit is central to the problem of increasing production on small-holdings, a number of administrative and organisational changes are required to achieve this end. Government intends to take the following action in order to place agricultural credit on a sound and effective footing within the period of the Three Year Programme:—

(i) Since it has been found that less than 60 per cent of all paddy cultivators are members of co-operative societies, a survey will be carried out to investigate the causes underlying the reluctance of cultivators to join co-operatives to obtain their credit requirements ;

(ii) Since approximately 63 per cent of the members of co-operative societies are in arrears of their share capital contributions, and are thus debarred from obtaining credit, co-operative societies will be advised to recover the instalments on share capital from the amounts payable to members under the Guaranteed Price Scheme for sale of their paddy. It has also been decided to make the managers of co-operative societies administratively responsible for the recovery of these instalments ;

(iii) Since approximately 13 per cent of members of co-operative societies are loan-defaulters and are thus debarred from receiving further loans, it is intended to advise co-operative societies to adopt and enforce By-law 13 of the Co-operative Societies Ordinance with a view to recovering outstanding loans from the cultivators through the agency of the Guaranteed Price Scheme. It is also the intention of the Government to amend the usual loan bond to provide for a lien in favour of the co-operative society on the crop of the defaulter. The bond will also provide for the creation of a usufructuary mortgage of the cultivator's land in favour of the co-operative society until such time as the loan is fully repaid ;

(iv) Since credit-worthy members are now not eligible for loans when co-operatives to which they belong are defaulters in respect of loans to Government, government has decided to set off against the overdue account of the society an adequate portion out of the commission of 50 cents per bushel payable to the society for its purchases under the Guaranteed Price Scheme;

(v) Further, in order to ensure that societies apply themselves to the recovery of loans from members, it has been decided that the Manager or Treasurer of the Society will be made administratively responsible for the recovery of these loans. A system of incentive bonuses will also be introduced to pay Managers or Treasurers of Societies an amount varying from one-fourth to one percent of the loan recoveries made by the Societies.

(vi) Since the present maximum credit limit to which a member is entitled is sufficient to tide him over only one cultivation season, and since in practice he is unable to get the income from the first crop before he embarks on the second season's cultivation, it is necessary to increase the maximum credit limit in areas where double-cropping is practicable. On the security of assured recoveres through the Guaranteed Price Scheme, Government has decided to increase the maximum credit limit of cultivators from the present level of five times, to ten times their share-capital contribution, subject to the condition that the maximum loan per season does not exceed five times the share-capital of any member.

(vii) Since, in practice, there is little saving through co-operative societies, a scheme has been proposed for the introduction of savings through co-operative societies, whereby the maximum credit limit of each member would increase automatically with each deposit. In order to make the scheme attractive, members will be given the right of converting these deposits into share-capital or of employing such deposits for productive purposes.

(viii) The People's Bank will be encouraged to enter the field of agricultural credit without further delay, with a view to providing short-term and long-term credit in order to enable farmers to effect permanent improvement to their assets. This will be done by the grant of loans for the purchase of implements, irrigation pumps, construction of poultry houses, cattle sheds, etc.

(ix) In order to encourage the proper utilization of credit for productive purposes, efforts need also to be made to introduce a system of "supervised credit", under which, apart from marketing, credit will be provided in conjunction with technical assistance for its optimum utilization. The possibility of ntroducng a scheme of credt on these lines, will be investigated in the Programme Period

There is a further organisational problem in this field. At present little interest is shown by co-operative societies in the problem of increasing agricultural production or in the utilisation of the instrument of agricultural credit to that end. Nor is there adequate co-ordination between the agencies responsible for agrarian organization and agricultural extension on the one hand, with the agencies responsible for agricultural credit (the Co-operative Societies and the Co-operative Department) on the other. Arrangements will shortly be made by changes in organisation, to achieve a greater co-ordination between the various agencies working in this field.

It is felt that the implementation of these recommendations will provide effective guarantees for a liberal expansion of credit so as to make a decisive impact on the amount of credit available to cultivators, resulting in an early break-through to higher yields.

Meanwhile, it is necessary to stress the need for the extension of institutionalised credit to fields other than paddy cultivation. Although credit is theoretically available for other crops, in practice, it is seldom utilised. The extent to which agricultural credit is provided for other crops and animal husbandry will influence the extent to which the diversification of agriculture is achieved. It is therefore, necessary, firstly to interest the credit agencies in its extension and secondly, to inform cultivators of its availability and to encourage them in its utilisation. The People's Bank should also be encouraged to enter this field especially with a view to providing the long-term credit required for the development of animal husbandry.

Agricultural Extension

Agricultural extension is one of the most effective instruments for the achievement of higher yields and greater output. It has been the experience of many countries that agricultural extension has yielded greater results per unit of investment than all other types of investment. In the U. S. A., and the U. K., approximately 1 percent of the national income is invested in agricultural education. In Ceylon, investment in this field amounts to only .09 per cent of our national income. Especially in an agricultural economy of small holders still adhering to traditional methods, the contribution of a vigorous and effective extension service can be decisive in the achievement of higher yields.

An examination of the agricultural extension service, however, shows that it has not proved as efficient as it could have been. This has partly been due to failure in the past to appreciate the contribution that it could make towards an immediate increase in total production, and partly due to the pre-occupation with land development rather than intensive cultivation.

Government has, therefore, decided to extend and intensify the coverage of the agricultural extension service by the provision of more staff and supervision. Greater attention will also be paid in future to the quality, training and orientation of the agricultural extension staff, as it is realised that their ability to sell new ideas to the cultivators and ensure their adoption will depend to a great extent on their enthusiasm, efficiency and expertise. A Committee has been appointed to go into the organisation and working of the agricultural extension service with a view to finding ways and means of achieving better results.

There is some indication that the extension services are now not reaching the cultivators due to lack of " communication. " It is essential that the contact of agricultural extension staff with the cultivator must be a real and effective one. The extension agents must be accepted in the village as knowledgeable and practical men aware of the farmers' needs and problems. This will involve greater attention being paid in the future to proper selection, training, and orientation of extension personnel.

Experience in other countries has also shown that demonstration plots, and demonstration techniques are not enough to achieve the desired results. Farmers often discount the increased production of demonstration plots as the result of special or outside circumstances. A more effective method has been found to be one of persuading the cultivator to try the improved methods himself on his own plot. This involves working with the cultivator and winning his confidence with an approach which is not external to the cultivator and his problems.

Efforts in the past were usually made to persuade individual cultivators to adopt individual improved cultivation practices as against the adoption of a whole complex of methods at the same time over the entire tract. The realisation of the lack of success of the former approach has led to a new approach to try to persuade all cultivators in the tract to adopt a number of improved practices together. The Government has, therefore, set in motion a new "yaya" wide extension scheme to this end.

But it is realised that for such a drive to be successful, it must be channeled through a yaya-wide cultivation organisation. Government intends to strengthen and utilize the Cultivation Committees under the Paddy Lands Act for this purpose. Under the provisions of this Act, the Agricultural Extension Officers, Divisional Officers of Agrarian Services, Village Cultivation Officers and Co-operative Inspectors, are ex-officio members of Cultivation Committees. If these officers are able to persuade the Cultivation Committees to adopt a given complex of cultivation practices, it would be possible to ensure that these practices will in fact, be adopted successfully over the entire tract, since these officers will be able to make available in time the improved seed, fertilizer, agricultural credit, etc. required. Above all, such a resolution by the Cultivation Committees for the adoption of improved methods within their areas would, under the provisions of the Paddy Lands Act, be binding on all cultivators within those areas. It is felt that the spediest means of ensuring the adoption of improved methods of cultivation would be for the cultivators themselves to resolve and carry out, through their own organizations, the propaganda efforts and enforcement of standards of improved cultivation over the entire tract. In order to achieve these ends, it would be necessary to strengthen and vitalize the Cultivation Committees under the Paddy Lands Act. This necessitates a number of amendments to the Paddy Lands Act and the Irrigation Ordinance. The Government will introduce these amendments within the period of the Short Term Programme.

In the past agricultural extension personnel have to a large extent been kept out of land development and colonisation schemes where the availability of assured and controlled irrigation make their efforts more likely of success. This has been largely due to the past legacy of a divorce between land development and agriculture. This has led to a failure to exploit, to the maximum, the facilities provided under major irrigation and colonisation schemes. Action has, therefore, been taken to bring about a complete re-allocation of agricultural extension staff so as to provide intensified coverage of the latter schemes.

It is similarly necessary to pay greater attention to extension efforts in regard to other crops too. The diversification of agriculture depends on the extent to which the cultivation of other crops is encouraged. Government therefore, intends to strengthen the operation of the agricultural extension services in regard to subsidiary crops and animal husbandry. The detailed problems of extension in these fields will be discussed in the relevant section of this programme.

II Crops

(i) Paddy

Paddy production is one of the country's major economic activities, providing not only the basic food, but also employment to a large section of the people. Despite the overall economic and social significance of this industry only 8 percent of the national income is derived therefrom, and only a little more than half of our requirement of rice is produced locally. During the period 1956 to 1961, the value of rice imports averaged nearly Rs. 250 million a year. In view of our limited supply of foreign exchange, it is essential that this drain be minimised, if not eliminated, as early as possible.

In recent years considerable progress has been made in this direction as shown in Table 28.

TABLE 28—PADDY ACREAGES, YIELD AND OUTPUT

Year	*Acreage Sown (million)*	*Net Acreage harvested (million)*	*Yield per acre harvested (bushels)*	*Output (m. bushels)*
1956	1·204	·916	30·0	27·5
1957	1·208	·967	32·4	31·3
1958	1·382	1·053	34·8	36·6
1959	1·330	1·044	34·9	36·4
1960	1·468	1·184	36·3	43·0
1961	1·472	1·196	36·1	43·2
1964*	1·515	1·305	42·0	54·8

*Target

This is also brought out in diagram (1) which shows a considerable fall in the value of imports of rice over the last few years. Although the substantial fall in imports in the last year is due partly to factors other than increased production, the achievement is still substantial. In fact, there has been an average annual rate of growth of paddy production of 9 per cent during the period 1956 to 1961.

This increase is not, however, directly connected with the major part of government investment in this field. In the years 1959 to 1961, 81 to 87 percent of Government's investment in non-export agriculture was in fact spent on irrigation, land development and colonisation schemes. This latter investment has not, however, accounted for any significant portion of the increase in production. For instance, the annual investment in irrigation and land development has on an average in each of the last 3 years yielded only 12 percent of the annual increase in total output. Paddy so produced has at the same time been sufficient to feed only 1/10 of the annual increase of population in these years.

While discounting the contribution of land alienations under major colonisation schemes during this period, it is necessary to appreciate that a further small part of this increase in production has come from lands under Village Expansion Schemes, highland allotments of colonisation schemes, from chenas, and from highlands diverted from other crops. A larger extent, however, seems to have come from already asweddumised. lands which have not been regularly cultivated in the past. Figures of acreages sown during the years 1956 to 1961 show that an additional crop acreage of 268,000 acres has been brought into production during this period. It is worth noting, however, that only 64,000 acres or 23 percent of the increase of crop acreage (including areas double cropped) came from new lands brought under cultivation in colonisation schemes (outside the area of the Gal Oya Development Board) during this period. In other words, a little less than 200,000 additional crop acres (allowing for paddy cultivation on village expansion allotments etc.) have been brought into production outside Government's programme of land development. More detailed studies are needed regarding the nature and location of these lands, but this fact would seem to indicate that already asweddumised lands, highlands and marginal lands have been brought into production under the incentive of the guaranteed price. This gives some indication of the direction in which further increases in acreage should be sought.

A good part of the increase in paddy output has also to be ascribed to the increase of yields on existing lands. During the period 1956 to 1961, average yield per acre rose from 30.0 bushels to 36.1 bushels-approximately six bushels. It has been pointed out earlier that a 6 bushel increase in average yields over the entire island would result in an increase in output greater than that produced from all colonisation schemes in one year. It is also significant that an equivalent increase has been achieved in 6 years with comparatively little investment. The estimate of average yield per acre for the year 1962 seems to indicate that there has been an even greater yield than in past years* To a great extent, this increase in yields has been achieved by policy, institutional and organisational changes introduced since 1956. These pertain mainly to the provision of security of tenure, guaranteed prices for agricultural produce, agricultural extension, crop insurance, subsidies and fertilisers.

The above analysis provides strong indicators for future action with in the present context of our limited capital resources. Efforts of the Three

---

*The estimate of average yield per acre for 1962 is 37·9 bushels per acre.

Year Programme will be directed towards investment involving low capital application in relation to output, towards obtaining maximum benefit from existing resources, and the introduction of policy, institutional and organisational changes with a view to achieving greater production.

Measures for increasing crop acreages

In regard to additional acreages brought under paddy, our analysis has shown that a larger part of the increased output has come from additional acreages brought into production at little or no capital cost, while only comparatively small acreages have been brought into production by government investment. It is, therefore, not advisable to invest greater amounts of scarce capital in opening out new lands when this acreage could be found by other means. Government has therefore decided to restrict the amount of new lands to be opened out under paddy in government's land development schemes, and to divert such lands for the irrigated cultivation of subsidiary crops. On the other hand, since it is necessary to make adequate provision for increasing the acreage under paddy cultivation, action will be taken to achieve this by other means.

Firstly, it is necessary to ensure the cultivation of the large extents of asweddumised lands which are now not cultivated. It has been estimated that an extent of approximately 245,000 acres in 1960-61, and 238,000 acres in 1961-62, have been left uncultivated for the Maha season alone. The reasons for this non-cultivation are not firmly known. It is possibly due to lack of adequate drainage, salvinia infestation, lack of resources for cultivation, dispute in title, excessive fragmentation etc. It would appear that the attraction of the guaranteed price has brought some of these marginal lands into production, as could be seen from the reduction of the acreage left uncultivated for the Maha season. There, however, appears to be scope for further progress in this direction. Government has, therefore, decided to appoint a committee in each district to carry out a detailed investigation of the causes for the non-cultivation of all uncultivated lands with a view to taking action to overcome the factors which now prevent their cultivation. The result of these investigations will be available by 1962/63, and will form the basis for a concrete programme of action in 1964.

A further line of action for adding to the effective crop acreage lies in the reclamation of lands which have gone out of production. In many cases, lack of adequate drainage facilities now deter the cultivation of these lands. Government intends to pay greater attention to the problems of drainage and reclamation in affected areas.

Similarly, a considerable acreage in the wet zone has been put out of production by salvinia infestation. It has been estimated that out of a total infested area of 51,000 acres, approximately 39,000 acres are cultivable lands. Despite an investment of nearly Rs. 8.5 million during the period

1955 to 1961 in the eradication of this weed, not much headway has been made. Government therefore, proposes to undertake the following investment programme for salvinia eradication in this period:—

TABLE 29—INVESTMENT ON ERADICATION OF SALVINIA

Year	*Rs. Million*
1961–62	3·0
1962–63	2·3
1963–64	1·0

It is realised, however, that salvinia cannot be eradicated by governmental action alone; the propagation of this weed calls for continued vigilance and mopping-up operations in cultivators' field and water-ways. This can in practice be done only by cultivators and their organisations. Government, therefore, intends to mobilise popular participation through people's organisations such as Cultivation Committees to carry out a co-ordinated programme with Government assistance.

The quickest, cheapest and most effective way of expanding the acreage under production is to encourage cultivation in two seasons, of lands which are cropped only once at present. Double cropping is possible in most areas only under conditions of controlled irrigation. It has been shown elsewhere that only about 40 per cent of the total acreage under all major schemes in the island are cropped for a second season. It has also been shown elsewhere that if economy is introduced in the use of water on cultivators' fields (at least to the extent to which it is exercised in government farms) it would be possible to bring under production one additional acre for Yala for every two acres cultivated for Maha. Under major schemes, this would result in an additional acreage of as much as 150,000 acres. A further crop acreage of at least 100,000 acres could be achieved by these minor schemes. Government has therefore, decided to take immediate action—legislative, institutional and administrative—to bring about this change. A committee will be appointed in each district, headed by the Government Agent, to investigate the possibilities of expanpansion of crop acreages by double-cropping and to make the necessary administrative arrangements.

Additional acreages can also be brought under production by marginal investment in augmentation and improvement of existing irrigation works. This type of investment is one that commends itself at this juncture being in accordance with the principles set out in this programme. The Irrigation Department will therefore give top priority to schemes for the augmentation and improvement of existing works with a view to increasing the acreage cultivable for Yala.

Another means of achieving an additional crop acreage is by increasing the acreage harvested by reducing the acreage lost through crop failure. In the last three years crops failed on an average of 280,000 acres approximately or on 19 per cent of the lands sown. This represents a loss of over 10 million bushels of paddy, or a little less than 25 percent of our total paddy production. Even if the loss figures appear to be slightly inflated, the extent of loss is considerable. Here again, comparatively little investment on irrigation, and better organisation of pest control services, together with propaganda for early sowing, might yield better results than the heavy investment in the past in making new acreages available for paddy cultivation.

The cumulative result of all these measures would be to increase the acreages sown and harvested. It is estimated that by 1964 paddy acreage sown would have increased to 1.515 million acres and the acreage harvested to 1.305 million acres.

Increase in yields

An analysis of the increase of production since 1956 shows that a good part of this increase has to be attributed to yield increases. The necessity for further development along these lines is emphasised by the fact that little or no direct investment, and comparatively little time, is required to bring this about. That progress has not been faster, is due to the fact that many of the policy and institutional changes that have been introduced have not reached the cultivators in effective terms, due to legislative and administrative deficiencies. This is so in regard to the provision of the Paddy Lands Act, the Guaranteed Price Scheme, the scheme for agricultural credit etc. Government will therefore concentrate its attention on removing the institutional and organisational defects in these schemes. Concrete proposals have been made elsewhere in this document for this purpose.

The increase in yields during the last six years is indicated in Table 28. With the increasing use of fertiliser and pureline seed it is expected that the rate of increase in yield per acre will be steadily maintained around 2 bushels annually so that by 1964 the anticipated yield would be 42 bushels per acre.

Improved seed

The evolution of H4, a locally produced hybrid with a yield potential of 100 bushels per acre gives promise of an early break-through to higher yields. Its advent further accentuates the need for an acceleration of the process of multiplication and distribution of improved seed varieties. Government already has in operation a subsidised scheme for the multiplication of improved seed. Although this scheme has made some headway there is room for improvement in its administration, so that this seed could be multiplied and distributed to the cultivators at a faster rate. Since

H4 and other improved seed varieties will give increased yields only under conditions of fertiliser use, its distribution must proceed hand in hand with a drive for the increased use of fertiliser.This is another means by which existing capacity—developed land and water—can be made to yield a much greater output than could be achieved by heavy capital investment in land development over a longer period.

Government will therefore devote its greatest attention in the agricultural field to the propagation of the use of H4 with fertiliser at the fastest possible rate. This will be done by improvements to the existing seed multiplication scheme along the following lines:—

(i) A survey will be undertaken immediately by the Department of Agriculture in collaboration with the Director of Census and Statistics, to ascertain the extent to which H4 and other improved seed varieties are in use, what proportion of such seed is certified by the Department of Agriculture, what factors are retarding their wider use, and what improvements could be effected to this scheme;

(ii) As the storage of seed paddy along with consumption paddy in the G.P.S. stores in the past has led to a deterioration of the seed due to insect attack, action is now being taken to provide separate storage for certified seed in seed paddy cum fertilizer stores, to enable dusting with insecticides;

(iii) In order to enable farmers to obtain their requirements of improved seed with minimum delay, a scheme is to be introduced by the Department of Agriculture in consultation with the Department of Agrarian Services, whereby certified seed will be provided to cultivators soon after the harvest, in exchange for consumption paddy. As far as possible, this will be done for the tract as a whole, the Department of Agriculture working through the Cultivation Committees for this purpose;

(iv) The existing machinery for seed testing will be strengthened so as to make increasing quantities of proved seed available to cultivators to meet the needs of the expanded scheme.

Meanwhile research efforts will be continued towards making available improved varieties of seed for lands for which H4 is not suitable, and evolving high-yielding strains for the shorter Yala season.

Fertiliser

The use of fertiliser in conjunction with improved farming practices and controlled irrigation, offers the greatest prospects of raising paddy yields within the shortest time. By this means, with marginal investment, the existing resources of developed land and water could be exploited to maximum advantage. The introduction of the improved seed variety H4 in conjunction with fertiliser and improved cultivation practices has given yields of over 100 bushels per acre in many parts of the country. This gives promise of an early break-through to higher yields if the practice of fertilizer use can be popularized.

In order to obtain optimum results, fertiliser must be applied with due regard to the existing nutrient status of the soil. This requires analysis of soils for nutrient content, followed by fertiliser trials in cultivators fields. Meanwhile the recommendation of the Department of Agriculture regarding fertiliser application (roughly in the region of Nitrogen 46 lbs., Phosphoric Acid 30 to 38 lbs. in the Dry and Wet Zones respectively, and Potash 55 lbs.), is being popularised. These recommendations will in course of time, have to be refined, so as to be specific for each yaya and ultimately, for each cultivator's field. With a view to evolving fertiliser recommendations for the main soil groups and demonstrating the use of commercial fertilisers in farmers' fields, a project is to be launched with assistance from the Australian National Freedom From Hunger Campaign for fertiliser trials, demonstration and surveys for extending the application of fertiliser in paddy fields. This project is likely to make a considerable impact on paddy production over the next five years.

There is also considerable scope for the increased use of green manure and other organic fertiliser in paddy and other cultivation. Efforts will be made to popularise their use in areas where soil conditions favour this practice.

The Ten Year Plan estimated the total fertiliser requirements for existing paddy lands at approximately 200,000 tons annually. This quantity would be sufficient to fertilise roughly 75 per cent of the crop acreage. In practice, however, only about one tenth of this quantity has been used—as can be seen from Table 30.

TABLE 30—QUANTITY OF SUBSIDIZED FERTILIZER ISSUED THROUGH CO-OPERATIVE SOCITIES FOR PADDY CULTIVATION

	Constituents			
	Total Quantity ('000 tons)	*Nitrogen (N)*	*Phosphoric Acid (P_2O_5) ('00 tons)*	*Potash (K_2O)*
1955–56	12·9	n.a.	n.a.	n.a.
1956–57	14·1	n.a.	n.a.	n.a.
1957–58	16·9	n.a.	n.a.	n.a.
1958–59	26·3	28·7	23·9	21·5
1959–60	20·2	24·4	13·1	13·2
1960–61	29·0	39·0	18·4	17·9
1961–62	30·1	[illegible]	24·5	23·2
1963–64*	60·0	87·2	33·0	37·5

*Target

A scheme for subsidised issue of fertiliser to paddy cultivators was introduced in 1950-51. This scheme has been extended by government, and a subsidy of 50 percent of the value of fertilisers is provided by government to all paddy cultivators who pay cash at the time of purchase. To members of cooperative societies a subsidy of one-third of the cost of fertiliser is provided on loan through their societies. In addition to these improvements in the scheme, Government has undertaken an intensive propaganda drive to encourage more farmers to take to the use of fertilisers. Fertiliser stores are being set up in all paddy producing areas, and considerable improvements have been introduced in the administrative arrangements for fertiliser supply. As a result of these measures, there has already been a marked increase in fertiliser use over the last year. But the rate of expansion has not been such as to give hope for an early break-through to higher yields for the country as a whole.

If it is found that these measures do not have the desired results, the Government will consider the adoption of more radical ones. Since the maximum advantages of fertiliser can be obtained only in conjunction with the use of improved seed varieties, this will be accompanied by a drive to popularise and supply large quantities of certified seed especially H4—at subsidised rates.

The Government will construct 53 fertiliser stores during the 3-year period, and will rent out a number of buildings for stores in all paddy producing areas. It will also be necessary to import sufficient quantities of fertiliser at cheap prices. The Government is setting up a State Corporation for the import and mixing of fertiliser. This Corporation will commence imports early in 1963.

In the light of the intensified propaganda drive, the improved arrangements for supply and distribution, and for agricultural credit, it is estimated that there will be a great increase in the use of fertiliser within the period of the Short Term Programme. On the basis of this expanded programme, it is estimated that fertiliser use will increase to 10,000 tons in 1962/63 and to 60,000 tons in 1963/64, and with the measures taken to intensify paddy cultivation, the output of paddy will increase to 54.8 million bushels by 1964. This represents an increase of 11.6 million bushels over the level of output achieved in 1961. On the basis of the import price of world paddy in 1961 this would mean a foreign exchange saving of approximately 74 million rupees.

Insecticides and Fungicides

While more and more cultivators are taking to insecticides and fungicides for protection of crops, a shortage of hand-sprayers and power-sprayers is tending to retard their wider use. Government will therefore take early steps to provide each Agricultural Extension Centre with a power-sprayer and also to strengthen the existing plant protection service. Every encouragement will be given to co-operative societies to provide hand-sprayers to individual cultivators on easy credit terms. The possibility of producing cheap hand-sprayers locally will also be pursued.

Weedicides

A faster break-through to increased yields could be obtained if an effective weedicide could be found to kill grass and weeds but not the paddy plant. Such a weedicide would make a decisive difference in yields, especially in the areas of extensive cultivation where hand weeding is not practicable. It would also enable a considerable conservation of water, since much water is wasted now in flooding fields in an effort to control weeds.

A suitable weedicide has now been found successful in research trials. It is necessary that further tests be conducted on a yaya-wide scale with a view to testing its efficacy and cost of application on a commercial scale. If it can be operated at an economic rate, an all-out drive will be carried out to popularise its use, and to introduce weed-control on a tract-wise basis through the Cultivation Committees.

Prices and Marketing

The guaranteed price for paddy, although it is at a higher level than is necessary to provide an adequate incentive to cultivators, appears now to be producing results. Although no detailed studies have been made of its effect on production (since it is difficult to isolate its effects from that of other incentives provided for paddy cultivation) it would appear that it has been responsible for a considerable extent of fallow and marginal land being brought under cultivation in recent years. To some extent, this has been at the cost of the diversion of lands especially chenas and highlands from other crops. It is, however, clear that a more specific subsidy for purchase of specific factors of production for intensification of cultivation (e.g. subsidy on fertiliser), or a subsidy contingent on the performance of some specific improvement, or adoption of some improved practice (e.g., a subsidy for tea replantation with improved clonal varieties), would have a greater effect on production. It has, therefore, been decided that any future subsidy should be of such a specific nature.

If the guaranteed price is to provide an incentive for increased production, it must be made an effective price. This necessitates an improvement in the organisation for purchasing, storage and milling of paddy so as to eliminate the delays that now beset the scheme.

The storage capacity of the Department of Agrarian Services at the end end of 1962 was about 12 million bushels. A storage capacity of 17 million bushels is estimated to be required by the end of 1963/64. Table 31 indicates that the total storage capacity that will be made available in the Programme Period approximates more or less to estimated requirements.

TABLE 31—STORAGE CAPACITY 1961–62 TO 1963–64

Year	*Estimated Storage Capacity required*	*Additional Storage capacity to be provided (million bushels)*	*Total Storage Capacity that will be available*
1962–63	15	1·5	13·5
1963–64	17	3	16·5

Considerable improvements have recently been made in the operation of the Guaranteed Price Scheme by the additional storage so provided. Some indication that the guaranteed price is reaching a larger number of producers is given by the fact that whereas in 1956 only 34 per cent. of the total output was purchased under the G.P.S., the amount purchased in 1962 increased to 55 per cent.

Rice Milling

The effectiveness of the price guarantee is to some extent determined by the rate of milling as this is a factor together with storage facilities, which determines the rate at which paddy could be accepted under the Guaranteed Price Scheme.

In regard to rice milling, it is Government's intention :—

(i) To improve the quality of milling.

(ii) To increase the rate of milling so as to enable a faster rate of purchase and disposal under the G. P. S.

(iii) To establish mills in surplus paddy producing areas. This would involve, in some cases, a re-distribution of existing mills from surplus milling areas to surplus paddy producing areas with deficit milling capacity. (In 1961 the expenditure incurred on the transport of paddy from producing areas to other areas for milling, amounted to approximately Rs. 3.2 million).

(iv) To shift the financial burden of construction and installation of mills from Government to the co-operative and the private sector, thus enabling Government to concentrate its capital on more directly productive investment.

For bringing about improvements in the standard of milling, the Government hopes to set up with U. N. Special Fund assistance, a new "classical type" of mill to demonstrate improved techniques of milling and to train private and Government mill operators. Secondly, it is intended to introduce subsidiary legislation under the existing law to ensure that all new mills conform to certain improved standards of equipment and design. Thirdly, it is intended to give notice to millers whose machinery is inefficient or obsolete that no new quotas will be given to them after a sufficiently long period of grace, unless new machinery is installed and the mill is sited in a deficit milling area to be indicated by Government.

With regard to the establishment of more mills in the deficit milling areas, Government has decided, firstly, that no new mills will be registered unless these mills are established in areas indicated by Government. Secondly, no new quotas will be given to millers in surplus milling areas after a sufficiently long period of grace unless they shift their mills, or put up new mills according to improved standards laid down by Government in deficit milling areas to be indicated by Government. Thirdly, every encouragement will be given to millers to set up mills in such deficit milling areas by giving such millers a guarantee of adequate quotas for a period of 3 to 5 years, and by encouraging the People's Bank or other lending agencies to give long-term loans to millers wanting to invest in this field.

On the basis of the system of incentives and guarantees described above, Government expects the private sector to invest in milling, and will not in future undertake investment in this sector. As far as possible, Co-operative Unions and Societies will be given preference in this field, but in areas where Co-operative Societies are unwilling, private millers will be encouraged to undertake investment in this field.

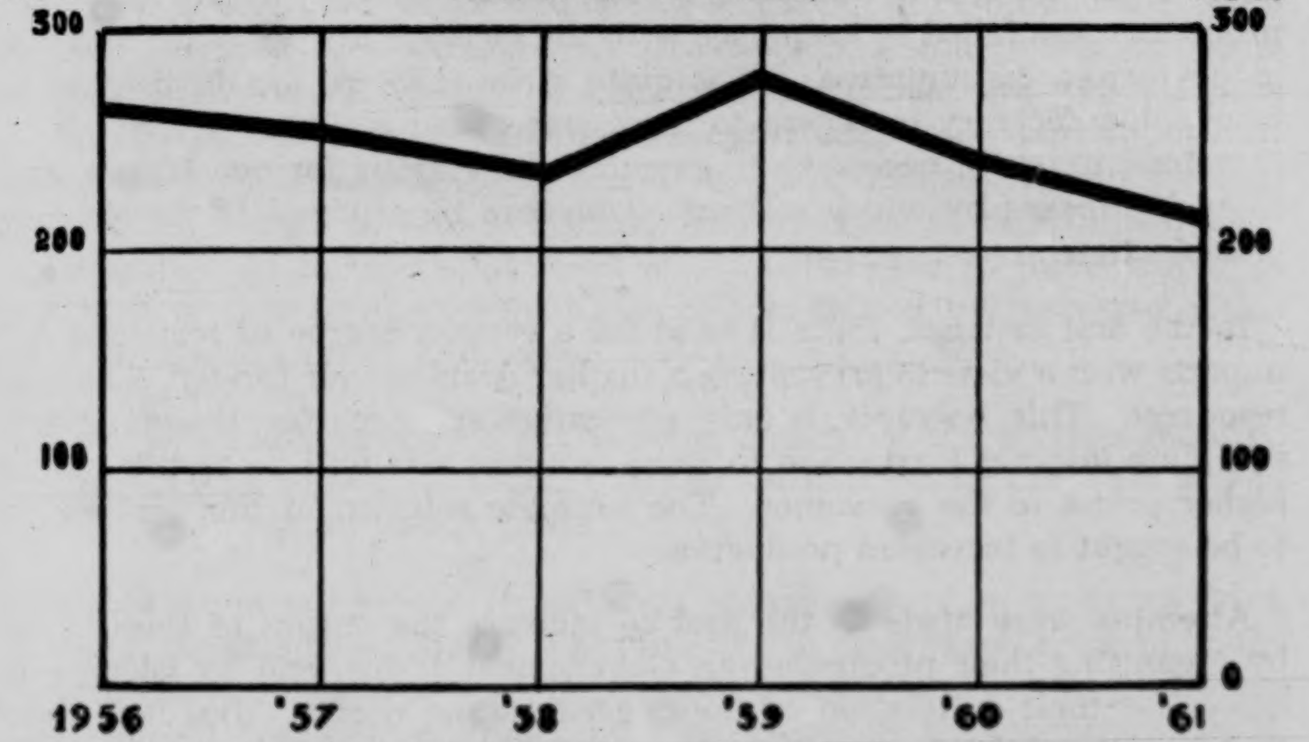
(ii) Subsidiary Food Crops

Foodstuffs other than, rice and fish products, sugar, livestock and livestock products, constitute 34 per cent of the value of our food imports. Many of the crops from which these foodstuffs are prepared can be grown in this country, as can be seen from their traditional cultivation in chenas and home gardens. One of the major lines of development envisaged in the Three year Programme is to move towards self-sufficiency in regard to most of these crops by a process of import substitution.

Figures relating to the production of these crops are not reliable, since they are grown in home gardens and chenas whose acreage and production are difficult to assess. Figures relating to imports are, therefore, the only

DIAGRAM NO. 1

RICE IMPORTS (VALUE)
RETAINED IMPORTS



Source: Customs Returns.

TOTAL VALUE OF IMPORTANT
SUBSIDIARY CORPS IMPORTED AT 1956 PRICES

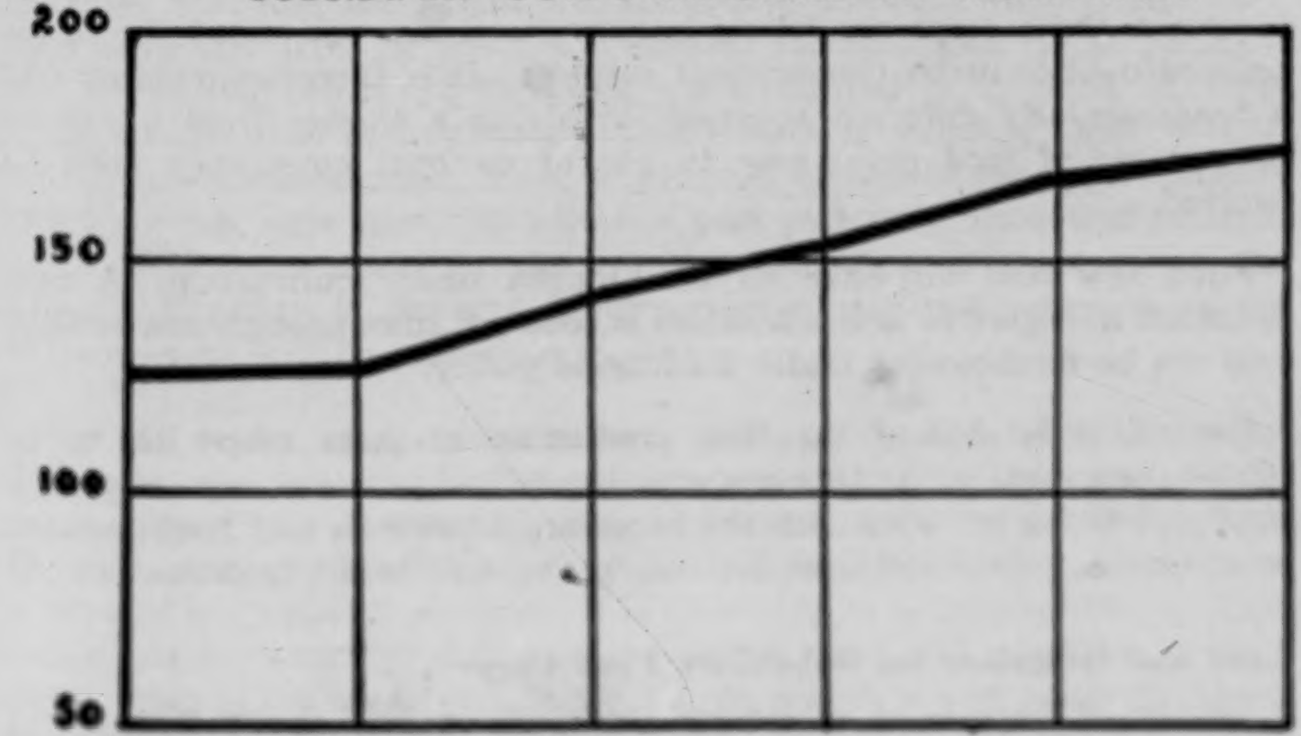


DIAGRAM NO. 2

guide to the degree to which local production has been able to meet local needs. Table 37 shows the value of imports of the more important subsidiary foodstuff over the last few years, while Table 36 and Diagram 2 show these imports at constant (1956) prices. This would indicate that production has failed to keep pace with the increase in population and rise in per capita consumption. It is quite clear that we are further away from self-sufficiency in regard to these crops than we were before. It is, therefore, urgently necessary to examine the reasons for our failure, and to evolve means by which self-sufficiency can be attained in the shortest possible time.

In the first instance, there is need for a certain degree of restriction of imports with a view to preventing a further drain on our foreign exchange resources. This, however, is only a negative approach for, though it will stimulate internal production in some measure this will be at the cost of higher prices to the consumer. The ultimate solution of this problem is to be sought in increased production.

Attempts were made in the past to increase the output of these crops by organising their production on Government farms, and by islandwide drives for their cultivation on home gardens and chenas. But it is clear that this type of approach is extremely limited and will not touch even the fringe of the problem. Table 32 shows that, if self-sufficiency is to be attained in regard to the more important items of subsidiary foodstuffs a total of 175,480 crop acres will have to be cultivated. This acreage cannot be found on Government farms and existing home gardens. Moreover these crops are labour-intensive and are not suited for large-scale cultivation under Government auspices. It is, therefore, evident that a fundamentally different approach involving a change from a routine programme of food production to one of national emergency must be evolved.

First, new land will have to be brought under cultivation. A new approach in regard to land alienation is required since enough new acreage will not be forthcoming under traditional policy.

Second, it is evident that the production of these crops has to be undertaken mainly by farmers who should be provided not only with land and water but also with the necessary incentives and facilities such as attractive prices and adequate marketing and credit facilities.

Land and Irrigation for Subsidiary Food Crops

A review of imports of subsidiary foodstuffs in 1961 shows that on the basis of present yields and per capita consumption, a total additional crop acreage of 158,120 acres of land in the dry zone, and 17,360 acres of land in the wet zone, are required to achieve self-sufficiency in regard to thirteen of the more important subsidiary crops. (Table 32). Part of this crop acreage will not doubt be found under extensive rainfed conditions on chenas. But the acreage under chenas remains more or less constant since new acreages are offset by old chenas going out of production. Part of this increased crop acreage can also be found under existing home gardens, highland allotments on colonisation schemes, etc. If adequate incentives and supporting facilities are provided, some portion of this additional crop acreage can be found by these means. Assuming that 30,000 acres can be so found, approximately 145,000 acres will still have to be opened up for the attainment of self-sufficiency in these crops. A reduction in this acreage could however be attained by increased yields on lands already under cultivation.

It was originally envisaged that a large portion of the acreage required for these crops should be found by their cultivation in the Yala season on existing irrigated paddy lands.

Trials carried out by the Department of Agriculture on its farms have, however, demonstrated that it is not feasible to grow these crops in paddy fields in the yala season as the soils of puddled paddy land are too ill-drained and compact for their cultivation. This approach has, therefore, to be abandoned.

Assuming that new lands will be alienated for these crops, and that irrigation will be provided to these new lands in the dry zone, and assuming that half the extent will be double cropped, we will still need 105.4 thousand acres of net sown area in the dry zone to get a gross cropped acreage of 158.12 thousand acres referred to in table 32. Even if we assume that approximately 20,000 acres of existing lands will be brought under these crops, there would still be a need for approximately 85,000 acres of new land. In terms of past policy no alienation of lands would have been made for the specific cultivation of these crops, and unless this policy is changed, achievement of self-sufficiency in regard to these crops will be as remote as ever.

A study of the comparative returns from paddy and subsidiary crops (Table 38) reveals that higher returns are obtainable per acre of land and per acre foot of water by way of income, employment and foreign exchange savings from these crops than from paddy. From the point of view of the national economy, it is necessary to maximise returns from scarce factors, which in this case are capital, land and irrigation, with a larger input of the non-scarce factor, labour, which is now underemployed. The cultivation of these crops will also provide a greater income (including labour income) to the cultivator and his family, as the gross income from these crops is higher than from paddy. Paddy, however, yields a greater return per unit of labour employed (especially at the present guaranteed price) as it is a relatively less labour intensive crop. Diversified farming is one of the most effective methods of increasing farm size and farm income, which measures the combined return to the farmer for his capital, labour and management. From an economic point of view, it is obviously desirable, that new land under Government's land development schemes should be reserved, where suitable, for the cultivation of these crops. This is so from an agricultural point of view too, since such a system of mixed farming is the only means of ensuring the optimum use of land, water and family labour, in the dry zone.

Government has, therefore decided to undertake the alienation of irrigated lands under new colonization schemes for this purpose, and will lay out the allotments and channel systems in such a manner as to enable upland and other suitable lands to be irrigated for the cultivation of these crops.

Meanwhile under existing colonisation schemes, the cultivation of these crops will depend on the possibility of lift irrigation from the existing channels (or from specially constructed high level channels), or from tube wells (if ground water is available). The possibility of development on these lines will, however, depend on the successful conclusion of further investigations.

Prices and Marketing Arrangements for Subsidiary Food Crops

Where the prevailing market prices for certain crops are not considered adequate to provide an incentive to the cultivator, such crops should be brought under the Guaranteed Price Scheme. Guaranteed prices have been established for a number of crops, but very few of these have been effective due to the competing premium price for paddy. One of the major factors that has prevented more widespread cultivation of these crops has been the relatively high net profit of paddy cultivation. This has even led in recent times to a diversion of land from other crops to paddy cultivation. It will, therefore, be necessary either to reduce the guaranteed price for paddy, or alternatively to increase the guaranteed prices for these crops.

Even where guaranteed prices have been fixed for these crops, they have often proved to be ineffective. The co-operative societies, in view of the high commission paid to them for purchasing paddy, have not found it profitable to deal in these crops. It will, therefore, be necessary to increase the commission payable to co-operative societies for purchasing these crops, or alternatively, to reduce the commission payable to co-operatives for the purchase of paddy. The Government has decided on the latter alternative.

It has also been found that co-operative societies have not been interested in purchasing the small quantities of these crops which are offered for sale. Efforts to produce these crops in the past have been on an island-wide scale, resulting in dispersed production on small extents in various parts of the country, with small quantities being offered to co-operatives for purchase. This underlines the need for the concentration of production of particular crops in particular areas, so as to facilitate marketing, and the effective operation of price-incentive schemes. Government has, therefore, decided to carry out vigorous extension drives in particular areas for the cultivation of particular crops, and will set in motion a co-ordinated effort for the provision of credit, seed material, fertilizer, guaranteed prices and marketing arrangements for these crops in these areas. Specific production programmes will be introduced for specific crops on the lines of this approach.

In regard to vegetables and horticultural produce, the seasonal glut and scarcity in production lead to marked fluctuation in their prices. Low prices are aggravated by inadequacy of transport facilities in many areas. In order to overcome these difficulties, the Marketing Department operates a scheme for the purchase of vegetables, fruits and eggs, from primary producers as well as from producers' organisations, through a number of Departmental collecting and sales centres. In recent years, steps have been taken to expand these facilities by opening up additional purchasing centres, and by increasing the number of retail selling points. Storage facilities have also been improved with a view to enabling the carry-over of produce to times of better prices. In order to achieve substantial progress in the latter direction, however, it would be necessary to improve and expand storage accommodation. This is to be done in the programme period by the conversion of part of the existing capacity in the Colombo Cold Rooms for the storage of fruits and vegetables under conditions of controlled humidity, and by the establishment of a Cold Storage Plant in Kandy for the same purpose. This plant will have a capacity of 200 tons, and is estimated to cost approximately Rs. 1.3 million. This project will help to prevent marked fluctuations in prices by enabling the carry-over of produce from seasons of glut to seasons of scarcity. The proposed establishment of a fruit canning plant will also tend to arrest the fall in prices of fruits at the height of the season.

Agricultural Credit and Agricultural Extension for the Cultivation of Subsidiary Food Crops

One reason why there has not been much progress in the cultivation of these crops is that little or no use has been made of credit facilities available to farmers for cultivation. It is obvious that in the case of crops like garlic which requires heavy investment on seed, and fertilizers, the small cultivator will not be in a position to embark on its cultivation in the absence of adequate credit facilities. It is not a mere coincidence that the crop in which maximum import substitution has been achieved is cigarette tobacco—one of the few crops for which adequate short and medium-term credit facilities have been provided. Government has, therefore, decided that agricultural credit will be more effectively provided through co-operative societies. Credit will be tied up with marketing, and loans will be recovered from the amounts due to producers from the sale of their produce under the Guaranteed Price Scheme. This will strengthen credit institutions, and will thus enable a greater expansion of credit in this field.

It is appreciated that the cultivation of these crops will not gain ground unless intensive propaganda is done among cultivators, and the necessary assistance by way of seed and pest control services are provided. The Department of Agriculture will intensify its propaganda in this direction.

In regard to agricultural extension, too, greater results can be achieved if an attempt is made to stimulate the production of particular crops in particular areas which are considered suitable for the cultivation. While an island-wide drive may also have its place in regard to certain crops (for instance, green chillies), results can be obtained in respect of certain other crops (for instance, garlic, dried chillies, red onions, bombay onions and turmeric) only if efforts are concentrated in well defined areas. The concentration of efforts in limited areas will also make it easier to provide the supporting institutional facilities such as marketing and credit, as well as pest control and other services.

Import Restrictions and Duties

It has been pointed out elsewhere that imports of various subsidiary foodstuffs have been increasing annually. Restriction of imports in some cases is desirable for a number of reasons. First, the rising per capita consumption of most of these commodities results in a serious drain on our foreign exchange resources. In the case of chillies, this increased per capita consumption may not even be in the best nutritional interests of the people. In the case of certain other commodities, such restrictions may be required from an agricultural point of view too. The unrestricted in flow of imported foodstuffs from countries with lower costs of production will completely frustrate the attempt to stimulate the production of these crops locally.

It is likely, however, that any such restriction of imports will lead to a disproportionate increase of price to the consumer. The introduction of an import duty may therefore be preferable in most cases to a restriction of imports as a means of providing increased prices to the producer. However, if there is a wide gap between the guaranteed price and the import price, the imported commodity will be offered for sale under the

Guaranteed Price Scheme, thus involving the Government in a financial loss without the compensating benefit of increased production. In certain cases, therefore, a restriction of imports may be necessary, while in others, this problem could be met by an import duty which brings the cost of the imported commodity almost up to the level of the local guaranteed price. In certain cases, this duty (or cess) can be channelled back into production by means of a higher guaranteed price. None of these courses can be followed without an increase in price to the consumer. This must therefore be considered a necessary price the country has to pay for agricultural production under present conditions. The effect of such a rise in price can be mitigated to some extent by Government taking over the import and distribution of certain of the restricted commodities. Government has decided to take action on the above lines with a view to encouraging the cultivation of certain crops in this country. Detailed recommendations are made below in regard to some of the more important crops.

Dried Chillies

Dried chilli is a popular ingredient in the local diet. Import of this commodity has shown a considerable increase, leading to a loss of foreign exchange to the value of Rs. 33 million in 1961. This increase is due to the increase in population, increase in per capita consumption, and failure of local production to keep pace with this demand. This is reflected in an increase in per capita consumption of imports of this commodity as shown in diagram No. 3.

On the basis of realisable yields, a total of 19,400 additional acres under rain-fed conditions and 38,900 additional crop acres under irrigated conditions will be required to be brought under this crop if we are to effect maximum import substitution. (Table 32). It is also necessary that a further acreage should be devoted to the cultivation of green chillies, as the attractive market price for the latter has diverted acreages from the production of dried, to green chilli. If a determined effort is to be made to cultivate this crop, it is necessary to set aside a sufficient acreage of irrigated land in the dry zone for this crop, in addition to encouraging its cultivation on chenas, home gardens, and highland allotments.

Prices offered for this crop have also to be attractive enough for the farmer to undertake its production. Although a guaranteed price exists for dried chillies at present, there is no margin between this price and the actual cost of production. This has led to the farmer's preference for the cultivation of green chillies. An increase in the guaranteed price by 20 cents per lb. is, therefore, recommended. Since this might lead to the sale of chillies imported from India (where it is produced at much lower cost) under the guaranteed price scheme, it is necessary to levy an approximately equivalent duty on all imports of dried chillies. The proceeds of this duty (or cess) could be utilized for meeting the extra cost of the higher guaranteed price.

It is also desirable to bring about an absolute reduction in the imports of chillies. The imports of this commodity result in a considerable loss of foreign exchange, while the increased consumption is not considered necessary or desirable from the nutritional point of view. Apart from stimulating production, a reduction of imports by 10 per cent (of the 1961 quantity of import) is proposed as an interim means of stemming the increasing tide of imports, until such time as local production increases. A further reduction of 10 per cent per year is proposed in the next two years. The availability of a substitute such as pepper, and a " marginal " substitute such as green chilli, would to some extent mitigate the hardship caused by this restriction. Any attempt by the private trade to exploit the situation could be met by State import and distribution of this commodity.

The production of dried chillies will be increased from 43,000 cwts in 1961/62 to 65,000 cwts and 95,000 cwts in 1962/63 and 1963/64 respectively.

Potatoes

In spite of early promise of successful production of this new crop, imports of potatoes have registered a considerable increase as shown in Table 37 This increase is due to the increased per capita consumption with a rapidly rising population and the failure of local production to keep pace with demand. This has resulted in an increase in per capita imports, as illustrated in diagram No. 3.

A survey of production, however, does not give promise of an early achievement of self-sufficiency in regard to this commodity. While the yields anticipated earlier may have been too optimistic, present output and yields cannot be said to be satisfactory. Recent experience in potato cultivation has revealed a complex of problems associated with its production on a commercial scale. These are related to varietal selection, high susceptibility to virus and bacterial disease, fertiliser application and storage. Until these technical problems are solved in a manner that would permit wider application of techniques at the cultivator level, it would be highly speculative to draw up a plan of production for the achievement of self-sufficiency in this crop. It is necessary to intensify research to solve these problems.

PER CAPITA ANNUAL CONSUMPTION OF IMPORTED (SELECTED) COMMODITIES

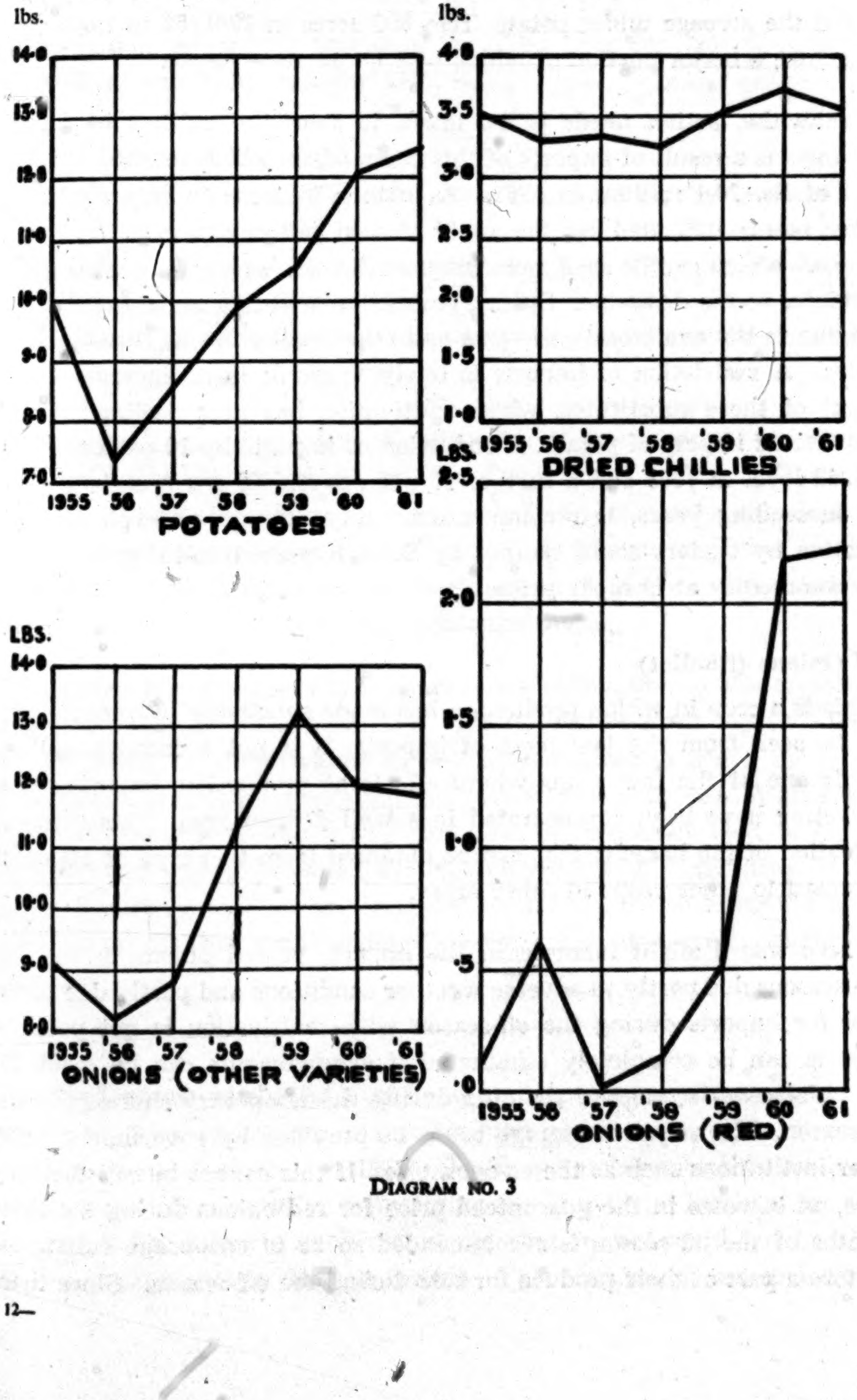


DIAGRAM NO. 3

The Department of Agriculture has now embarked on a vigorous programme of research in this direction and has planned increased production on the basis of past experience and available knowledge. They propose to expand the acreage under potato from 300 acres in 1961/62 to 1,600 acres in 1963/64, a major portion of which will be on state farms.

Meanwhile, action needs to be taken to stem the outflow of foreign exchange as a result of imports of this commodity, which reached the high level of Rs. 20.4 million in 1961. A further increase in imports in the future seems indicated by the rapid rise in per capita consumption of imports—which can be seen from diagram No. 3. A restriction of imports, therefore, seems desirable. Such a restriction will not cause much hardship due to the availability of yams and other root-crops as suitable substitutes. A restriction of imports is likely to result in an increase in the output of these substitutes, whose cultivation has now declined due to unrestricted import of potato. A reduction of imports by 10 per cent from in 1962 level in 1963 and a further 10 per ent and 20 per cent in each of the succeeding years, is recommended. Any attempt at exploiting the situation by traders could be met by State imported and distribution of this commodity at cheaper prices.

Red Onions (Shallot)

This is a crop in which production has made substantial advances. This can be seen from the low level of imports. It is not a coincidence that this is one of the few crops where efforts at production, extension and marketing have been concentrated in a well defined area. This gives an indication of the benefits that can be obtained from this type of approach in regard to other crops in other areas.

There was a slight increase in the imports of red onions in the last two seasons due partly to adverse weather conditions and partly due to the need for imports during the off-season when cultivation is not possible. Imports can be completely eliminated if arrangements can be made for the satisfactory storage of the crop during the temporary shortage of the off-season. The required storage could be provided by government or by other institutions such as the co-operatives. If this cannot be satisfactorily done, an increase in the guaranteed price for red onions during the three months of the off-season is recommended so as to encourage cultivators to store a part of their produce for sale during the off-season. Since there is a possibility that imported red onions will be offered for sale under the guaranteed price scheme, it is necessary to introduce a duty (or cess) on red onions imported during this off-season.

Production targets for this crop are 1,064 cwts for 1961/62 1,601 cwts for 1962/63 and 2,054 cwts for 1963/64.

Other varieties of Onions

Rs. 18.5 million of foreign exchange was expended on the importation of Bombay, Bellary and other varieties of onions in 1961. Here, too, imports show a rising trend as can be seen from Table 37. The rate of increase of imports here has again been greater than the rate of population increase. This is indicated by the rise in per capita consumption of imports of this commodity, shown in diagram No. 3.

There has been no tradition of cultivation of these onions on a commercial scale. Trials conducted by the Department of Agriculture have however shown that yields of over 5 tons per acre can be expected on a field scale, giving promise of very profitable production. Table 38 shows that this is one of the most economic crops from the point of view of income, employment and foreign exchange saving.

It is therefore necessary to encourage the cultivation of this crop in the dry zone under irrigated conditions. Efforts will be made in this direction by concentration of cultivation in well defined areas in which the benefits of adequate credit and marketing facilities will be provided. A guaranteed price will be introduced for this crop, and the necessary seed, and extension services will be provided by the Department of Agriculture in order to popularize its cultivation. Irrigated land will also be alienated for the cultivation of this crop under Government's new land development schemes.

Pulses

Pulses constitute one of the most important protein ingredients in the local diet. The value of imports of this commodity amounted to Rs. 42 million (for all types of pulses) in 1961. Continued imports of this commodity are, however, necessary for maintaining the nutritional levels of the population. It has hitherto been considered that lentils could not be grown in this country due to climatic factors. This crop requires a cool climate.

But recent trials at Rahangala give fair promise of its successful cultivation. The problem of finding suitable uncultivated land in the appropriate agro-climatic zone would in any case have to be solved before any significant cultivation of this crop can be undertaken.

Other pulses like Toor dhal, cow-pea and green gram can be produced in this country as unirrigated crops on upland which would otherwise lie fallow during the yala season. Leguminous crops of this nature also have the advantage of improving fertility of the soil. Their cultivation therefore needs to be encouraged from an economic, land use, an argonomic point of view. Their cultivation is also necessary, as they are the only practical substitutes for lentils and are, therefore, likely to form the major element of vegetable protein in the future. Existing lands and new lands to be opened up in the dry zone will, therefore, be devoted to the cultivation of these crops in the Yala season.

Guaranteed prices have been introduced for Toor dhal and cow-pea, but there has been little progress in their cultivation. It is, therefore, necessary that their cultivation be extended by a vigorous policy of land alienation, agricultural extension, and provision of effective credit and marketing facilities. If necessary, guaranteed prices for these commodities could be increased to encourage their wider cultivation. When adequate advances have been made in this direction, the import of lentils could be gradually restricted with suitable substitution by Toor dhal and cow-pea. This is the only way in which the imports of lentils, which now cost the country Rs. 15 million per year, can be eliminated.

In the case of green gram, it is found that the guaranteed price is lower than the cost of production. An increase in the guaranteed price is, therefore, proposed. This increase can be met by the imposition of an equivalent duty or cess on imports of this commodity.

Garlic

The value of imports of garlic in 1961 amounted to Rs. 3.1 million. Garlic is a crop which can be produced in a limited agro-climatic zone, as in the Udukinda Division of Uva. The factors which have so far stood in the way of the cultivation of this crop are the limited extent of suitable land, competition from other economic crops (such as up-country vegetables), the high initial outlay on seed and fertilizer, the labour-intensive treatment required, and the unsatisfactory conditions of marketing. It is proposed to launch an intensive drive for the cultivation of this crop in a restricted area, both on the basis of home gardens as well as on a more extensive scale, while co-operatives will be organized to provide the supporting facilities in an organized and dependable manner.

It will be further necessary to provide a guaranteed price for this crop. Imports of the more expensive qualities of garlic will be restricted to prevent a needless loss of foreign exchange, while a quantitative restriction in imports may be necessary in future as local production develops.

Turmeric

Imports of turmeric have been increasing since 1955. (Table 37) Although this is a crop which presents no problem in production, the inconvenience of curing small quantities appears to have retarded the greater production of this commodity. Since all the requirements of this country can easily be produced in home gardens in the mid and low country wet zone, self-sufficiency can be achieved by a concentrated effort in these areas. The provision of curing facilities by co-operative societies, rural development societies or mahila samitis, would solve the processing problems involved. A partial restriction of imports is also recommended.

Maize and Sorghum

Considerable scope exists for the cultivation of maize, sorghum and other grains under rainfed conditions on the upland of the dry zone. Failure to produce these grains has limited the advance of the animal husbandry programme, and has led to the recent import of maize. These crops have also a crucial role to play in the pattern of land use in the dry zone, as their cultivation provides the only profitable use to which the highest lands of the dry zone can be put at present.

Difficulties associated with the control of weeds have in the past been the main obstacle to the extensive cultivation of this crop on a continuing basis. The discovery of a suitable weedicide for maize together with the use of fertilizer, has now given prospects of a rapid expansion of its cultivation on an extensive scale on un-irrigated uplands of the dry zone. Its cultivation will therefore be encouraged on existing highland allotments of colonization schemes, as well as on lands to be alienated for extensive mechanized cultivation by middle class co-operatives and companies under the proposed new scheme of alienation. The cultivation of sorghum and other grains will also be encouraged on the same basis.

Meanwhile, further incentives will be provided by way of a more attractive guaranteed price. Since this is likely to increase the price of grains to the poultry producer, a subsidy needs to be given on poultry food—the cost of which will be met by a duty or cess on imported eggs.

Improved marketing facilities will be provided on the basis of the cultivation of these crops in concentrated areas where the co-operatives will be organized to buy these grains under the incentive of increased commissions payable for these crops, or the reduction in the commission payable for paddy.

Coffee

The value of imports of coffee amounted to approximately Rs. 3 million per year in the recent past. It has been estimated that 4,000 acres would have to be brought under this crop to achieve self-sufficiency. Cultivation now takes place on the basis of small-holdings and home gardens. There is a need for the extension of cultivation on a more systematic basis. Studies of varietal selection and fertilizer application have been carried out by the Department of Agriculture, and these studies should provide the basis for the extension of cultivation on a systematic commercial scale. Land alienations have been carried out in the past for coffee cultivation in the Kalutara District. Further development of new lands under highland colonization schemes, or under State plantations would be necessary if we are to achieve self-sufficiency in the near future.

Agricultural extension for coffee production will be concentrated intensively in the coffee growing districts of Kalutara, Colombo, Kegalle and Ratnapura. Emphasis will be placed on the supply of improved planting material, increased fertilizer application, and systematic pruning and picking.

The restriction of imports in 1961 has given a stimulus to production, resulting in greater interest being taken in existing plantations. Meanwhile it is necessary to organize marketing through co-operative societies in the coffee producing districts so as to enable cultivators to get an effective guaranteed price for their produce.

With the proposed new alienations for coffee cultivation, and the stimulus to production provided by the guaranteed price and by the restriction of imports, it is expected to achieve self-sufficiency in coffee by 1968.

Table 32—ADDITIONAL CROP ACRES REQUIRED FOR SELF-SUFFICIENCY IN SELECTED CROPS (ON THE BASIS OF 1961 IMPORTS)

	Imports 1961	*Average yield per acre* (Cwts)	*Additional Crop acres required*	
			Dry Zone	*Wet Zone*
1. Chillies dried	*340 086	—	—	—
(*a*) Rainfed	—	3½	19,400	—
(*b*) Irrigated	—	7	38,900	—
2. Potatoes	1,188,737	80	—	14,800
3. Red onions	211,968	—	—	—
Irrigated	—	90	2,350	—
4. Onions other varieties	*1,135,120	—	—	—
(*a*) Rainfed	—	60	3,950	—
(*b*) Irrigated	—	80	11,350	—
5. Beedi tobacco—cured leaf	20,018	4	5,000	—
6. Cigarettes tobacco	13,240	6	2,200	—
7. Turmeric—cured	23,584	20	—	1,180
8. Garlic	46,326	35	—	1,320
9. Green gram	178,752	4	44,700	—
10. Maize	37,516	20	1,870	—
11. Ground nut (green)	11,209	10	1,200	—
12. Gingelly seed	5,395	3	1,800	—
13. Toor dhall	254,187	10	25,400	—
			158,120	17,360

---

* It is assumed that one-fifth of this quantity will be produced under rainfed condition, and the balance under irrigation.

(iii) Subsidiary Commercial Crops

Sugar

The market for sugar in Ceylon is sufficiently large to support three or four economic production units. The crop is labour intensive and promises higher gross returns per acre than its most likely competitor, paddy. For these reasons, it was decided to embark on the cultivation of sugar cane on a large scale.

But due to various difficulties of land development and of planting and harvesting of cane, progress has been slow. Only a total of 8,200 acres have been planted under the Kantalai and Gal Oya Schemes since 1952. A further acreage of 12,500 acres is to be planted by the end of 1964.

The progress in respect of acreage harvested has been even less satisfactory. This is partly due to damage to standing crops by elephants and by fire. More fundamental, however, have been, the difficulties associated with the harvesting of the crop due to shortage of labour, and low output per capital. The actual rate of harvesting has been one-third ton per labourer per day against the anticipated rate of one ton per day. The acreage harvested in 1961 was only 2,000 acres. The problem of labour for harvesting continues to be the major obstacle to the development of further acreage and to the achievement of greater output from existing plantations.

As a result of these short-comings the output from existing plantations at Gal Oya and Kantalai has been low. For instance, whereas in 1961 it was expected to harvest 9,800 acres of cane yielding 34,800 tons of cane, or 3.5 thousand tons of sugar, in fact only 2,000 acres were harvested, yielding 2,297 tons of cane. These short-falls in output have had serious repercussions on the two factories at Kantalai and Gal Oya, and have materially affected their economic operation. In 1961, for instance, the factories were supplied with only 8 per cent. of the cane required for their optimum operations, resulting in a very high cost of production of sugar. Even on the assumption of a considerable increase in output from the plantations, it is expected that in 1964 only 34 per cent. of the cane requirements of the factories will be supplied.

While the yield of cane has been considerably below the original estimate of 40 tons per acre, the existing yield of 22 tons per acre compares very favourably with the average sugar cane yields in South India and some other countries. There is, however, an urgent need for the establishment of a sugar cane Research Institute to carry out research regarding varietal selection, breeding, fertiliser problems, water relations, pests, diseases and the general field husbandry of cane.

In the light of the problems that have arisen in the plantation, cultivation and harvesting of cane, it has been decided to slow down the rate of expansion. Only 8,200 acres have been planted. It is not proposed to undertake Stage II of the original sugar plantation programme until the full area of the present plantations has been brought under production. The short-fall in performance at Kantalai and Gal Oya and the retardation of the sugar programme in general, make it necessary to re-assess the degree of self-sufficiency which the country can hope to attain in the short-run. This is done in the table below. It will be seen that local production will account for only 7.5 per cent. of our requirements in 1964.

Table 33—ANNUAL REQUIREMENTS AND LOCAL PRODUCTION OF SUGAR (1959–1964)

Year	*Estimated requirements tons*	*Local production tons*	*Degree of self-sufficiency*
1959	185,000	—	—
1960	193,000	556	—
1961	202,000	2,797	1·4%
1962	211,000	4,450*	2·1%*
1963	220,000	11,940*	5·4%*
1964	230,000	17,340*	7·5%*

* Estimates.

The progress made in sugar cane cultivation at Gal Oya and Kantalai and the programme of development for the period of the Three-Year Programme, are set out in the table below:

Table 34—ACREAGE PLANTED, ACREAGE HARVESTED, OUTPUT AND INVESTMENT, 1958–1964

	Actual				*Estimates*		
	1958	1959	1960	1961	1962	1963	1964*
Acreage Planted	1,600	2,070	2,135	2,396	3,800	4,100	4,600
Acreage Harvested (including ratoons)	—	—	617	2,003	2,875	6,600	8,600
Output of Cane (tons)	—	—	13,644	45,847	59,000	138,000	204,300
Yield of Cane per acre (tons)	—	—	22	23	21	21	24
Investment Rs. Million†	17·4	8·0	6·0	2·9	7·6	4·3	7·9

* Provisional Estimate

† Investment on Plantations by Kantalai Corporation.
Agricultural Department.
Gal Oya Board.

Cotton

It is estimated that approximately 6,000 tons of raw seed cotton will be required to meet the full requirements of the local handloom industry and the textile mills at Veyangoda and Wellawatte in 1964. The Three-Year Programme for the development of cotton envisages the cultivation of half this requirement (i.e., 3,000 tons). An average yield of 5 cwt. (seed cotton) per acre on 12,000 acres will be necessary to achieve this level of production.

Cotton can be grown successfully under rainfed conditions in certain sections of the dry and arid zones, where the precipitation is not heavy during the growing period of the crop. Studies however indicate that it will not be feasible to grow all our requirements in view of climatic limitations.

The original scheme for cotton production in the public sector envisaged the development of 8,000 acres in the Hambantota District of which 5,600 acres were for the expansion of Ridiyagama Buffalo farm, and 2,400 acres for cotton cultivation on a two-course rotation, under which 1,200 acres would be cultivated annually. Progress in the plantation and production of cotton has not however been up to expectations. The original scheme has now been revised, and only 2,400 acres will be developed, of which 1,200 acres will be cultivated annually in a two-course rotation. Cultivation next year will be confined to a pilot project on 600 acres to test the economics of mechanised cultivation of cotton on arable land. The acreage will be expanded if trials prove successful. The maximum production on the basis of the above programme of development will, however, not be more than 300 tons of cotton or 1/10th of the total production planned.

It will, therefore, be necessary to encourage the cultivation of about 10,000 acres by farmers on a chena basis in the drier parts of the Island. Attempts will, however, soon be made to place this cultivation on the more permanent basis of a stable crop rotation. In order to encourage farmers to take to the cultivation of this crop, an attractive guaranteed price has been fixed. It is intended to notify cultivators of revised prices, if any, approximately four months ahead of the commencement of the cultivation season, so as to enable them to decide on their cultivation programmes. The Department of Agriculture will also provide services such as seed distribution and pest control with a view to popularising this crop. On the basis of the above programme, it is expected that approximately 10,000 acres will be brought under cultivation on private lands in 1962/63, thus enabling about half our raw cotton requirements to be met by local production.

Tobacco

Considerable progress has been made in the cultivation of cigarette tobacco. There has been extension of its cultivation on highland as well as on well-drained irrigated paddy lands as a Yala crop, in areas such as the Nuwara Eliya, Matale, Kurunegla and Polonnaruwa Districts, as well as under the Gal Oya Scheme. There are now 10,000 acres under this crop.

Despite this increase in the area under cultivation, a sum of Rs. 5 million was spent on the import of 1.35 million pounds of unmanufactured tobacco in 1961. It should be our aim to cultivate our full requirements of this crop except for a small margin, which has to be imported for blending purposes. With a view to stepping up further production, it is proposed to restrict the import of cigarette tobacco except to the extent that superior cured leaf is required for blending purposes. Imports of leaf tobacco will therefore be restricted to 1 million pounds in 1962, followed by annual reductions of two to three thousand pounds per year.

The extra production required to replace imports will be sought from increased yields rather than from an expansion of acreage. It has, therefore, been decided not to expand the existing acreage of 10,000 acres. A drive will be made to increase yields on existing lands by the provision of credit, fertilizer, marketing, extension and pest control services to producers.

Beedi Tobacco

In the case of beedi tobacco, little progress has so far been made. Our imports of this commodity in 1961 amounted to Rs. 7.1 million, of which Rs. 4.3 million was spent on the import of manufactured beedi.

At present there are only 500 acres under cultivation, mainly on a chena basis in the under-developed parts of the Dry Zone. At the present yield of 4 cwt. per acre, an additional acreage of 5,000 acres will be required for the achievement of self-sufficiency in this crop. Beedi tobacco can be grown extensively in rain-fed areas in the Dry Zone and there is considerable scope for the cultivation of the required additional acreage in the Dry Zone north of Matale and in the belt extending from Moneragala to Hambantota. On this basis the Department of Agriculture has set the targets for the cultivation of beedi tobacco at 1,200 acres for 1962/63 and 2,000 acres for 1963/64.

At present, the problem, is not so much one of cultivation as of provision of adequate credit and marketing facilities. The Department of Agriculture now supplies tobacco seed to cultivators, while the Commissioner of Agrarian Services supplies fertilizer on credit. The problem of marketing is also being successfully tackled by the recently formed Beedi Tobacco Growers' Association which now undertakes the purchase of beedi leaf in the producing areas. It would, therefore, appear that a recognition of the problems associated with this crop has enabled timely and necessary action to be taken in regard to its cultivation. This is likely to result in the supply matching the rising demand for this commodity.

Table 35

Value of Food Imports from 1957-61

Rs. '000

Category	1955	1956	1957	1958	1959	1960	1961
Livestock and livestock products	50,115	49,505	68,476	63,141	87,949	82,059	74,416
Fish and fish preparations	67,836	77,957	80,216	92,323	89,009	105,424	68,796
Rice	221,502	263,689	255,390	237,837	282,965	242,295	217,327
Sugar and sugar preparations	65,557	98,350	84,799	89,936	78,738	82,158	79,168
Other food	198,226	189,981	221,651	209,499	249,516	229,371	226,865
Total	603,236	679,482	710,532	692,736	788,177	741,307	666,572

Source : Customs Returns.

Table 36

Value of Imports of selected subsidiary Foodstuffs at (*Constant 1956 Import Prices*) (Rupees) from 1956 to 1961

Rupees Million

Commodity	1956	1957	1958	1959	1960	1961
1. Chillies Dried	23·5	24·5	24·5	27·3	29·3	29·7
2. Pulses excluding lentiles	30·1	17·3	24·9	25·4	26·8	31·5
3. Potatoes	13·1	15·7	18·8	20·5	24·2	25·8
4. Onions (all varieties)	12·9	13·3	17·8	22·0	23·4	23·9
5. Onions (varieties other than red)	12·1	13·4	17·7	21·4	20·0	20·3
6. Lentils	7·9	15·4	12·6	9·2	12·7	13·3
7. Tobacco (Beedi)	12·7	12·7	13·0	11·5	10·5	10·1
8. Tobacco (Cigarette and other)	5·2	6·1	4·0	5·7	6·3	4·7
9. Coffee	2·7	2·2	2·7	3·6	4·8	4·8
10. Onions (Red)	·7	0·2	·1	·7	3·1	3·2
11. Tamarind	1·7	·9	1·6	1·8	2·2	2·2
12. Garlic	1·9	2·2	3·0	2·2	2·5	2·5
13. Turmeric*	n.a.	1·5	1·6	1·7	1·9	1·8
Total	125·1	125·7	142·9	153·5	167·3	174·8

*At 1955 import price.

*Totals will not add up due to rounding of figures.

Table 37—IMPORT OF SELECTED SUBSIDIARY CROPS

Value in Rupees Thousands—Weight in Thousands

Commodity	1955		1956		1957		1958		1959		1960		1961	
	Quantity	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*	*Quantity*	*Value*
Chillies dried (cwt.)	283	26,595	273	23,545	283	30,695	285	21,773	316	24,619	345	36,537	340	32,902
Potatoes (cwt.)	798	13,130	607	13,195	722	15,382	865	16,629	944	17,816	1,115	19,169	1,189	20,497
Onions (other than red) (cwt.)	731	9,173	679	12,181	748	15,306	991	17,470	1,196	17,108	1,116	15,259	1,135	18,484
Pulses including lentils (cwt.)	1,310	29,289	912	30,196	525	18,444	755	25,758	767	23,065	811	22,357	926	26,889
Lentils (cwt.)	32	754	281	7,930	546	20,979	444	18,898	327	14,206	453	19,683	475	15,384
Garlic (cwt.)	41	1,628	35	1,955	41	2,098	55	2,660	41	2,215	45	2,117	46	3,155
Onions, Red (cwt.)	8	112	50	764	2	15	13	214	46	575	203	3,285	212	2,861
Coffee (lb.)	1,399	2,612	1,690	2,732	1,377	2,392	1,709	3,124	2,267	3,432	2,979	2,896	504	435
Tobacco Beedi (lb.)	2,645	11,308	2,801	12,717	2,798	12,072	2,881	12,145	2,538	8,478	2,315	8,855	2,242	7,110
Cigarette Tobacco (manufactured and other) (lb.)	1,483	6,070	1,637	5,285	1,909	7,173	1,254	5,121	1,774	8,168	1,976	8,150	1,483	6,117
Tamarind (cwt.)	79	1,737	77	1,753	42	962	72	1,657	80	2,578	101	2,843	13	376
Turmeric (cwt.)	20	1,542	—	—	20	440	21	539	23	897	25	1,087	24	1,166
Total value of 12 items		103,950	—	112,252	—	125,956	—	125,988	—	123,156	–	142,396	—	135,376

Source : Customs Returns.

Table 3 —COMPARATIVE INCOME (AT C.I.F. PRICES, G.P.S. OR MARKET PRICES) AND GROSS FOREIGN EXCHANGE SAVINGS PER ACRE FROM SELECTED CROPS

Crop	*Gross income per acre at c.i.f. price of imports 1961*	*Gross income per acre at guaranteed price (where applicable) or market price*	*Gross foreign exchange saving per acre*	*Units of labour employed per acre*
Paddy	Rs. 257 (10·9 cwts. rice at Rs. 23·56)	Rs. 480 (40 bushels at Rs. 12)	Rs. 257	50 men 12 women
Chillies :				
(*a*) Dried (rainfed)	Rs. 339 (3½ cwts. dried chillies at 96·75)	Rs. 499 (3½ cwts. dried chillies, 200 lb. Green chillies at 40 cents)	Rs. 339	60 men 80 women
(*b*) Dried (under irrigation)	Rs. 677 (7 cwt. at Rs. 96·75)	Rs. 956 (7 cwt. dried chillies, 300 lb. green chillies at 40 cents)	Rs. 677	120 men 130 women
(*c*) Green (under irrigation)	—	Rs. 896 (20 cwt. green chilli at 40 cents per lb.)	Savings from partial substitution for imported dried chilli	120 men 140 women
(*d*) Green (rainfed)	—	Rs. 537 (12 cwt. at 40 cents per lb.)	do.	60 men 90 women
Beedi Tobacco	Rs. 1,230 (6 cwts.) at Re. 1·83 per lb.)	Rs. 846 (6 cwts. at Rs. 141 per cwt.)	Rs. 1,230	80 men 90 women
Bombay Onions	Rs. 1,628 (5 tons at Rs. 325·60)	Rs. 2,240 (5 tons at 20 cents per lb.)	Rs. 1,628	150 men 120 women

III Animal Husbandry

Dairy Development

Progress in animal husbandry is basic to any programme of agricultural development. An advance towards the achievement of self-sufficiency in milk and milk products and an increase in the supply of meat, is envisaged on the following lines :—

(i) Raising the average yield of local cows from 1.2 pints per animal per day to at least 3.2 pints ;

(ii) Increasing the carcass weight of cattle ; and

(iii) Increasing the number of cows milked from existing herds.

The first two are long-term processes which the government seeks to carry out by a programme of research in animal genetics, by providing facilities for artificial insemination, improving animal husbandry and veterinary services, enforcing relevant provisions of the Animals Act, and improving marketing facilities for milk and meat. In regard to the third, in which results can be achieved in a relatively short time, the government proposes to establish specific projects to increase production of milk in specific areas with a view to meeting existing demand. These projects will also make their contribution towards the long-term development of animal husbandry by the provision of breeding stock, pasture and of management techniques for improving the standard of pasture and stock throughout the country.

Although these specific projects will yield substantial returns, priority will be given to a general improvement of animal husbandry over the entire country by raising the quality and milk yields of local cattle ; for this will in the long run yield still higher returns. Government will therefore direct its major efforts towards this end. Firstly an artificial insemination service has been introduced with a view to utilizing limited breeding material for extensive propagation of improved breeds. The indigenous cow will be used as foundation stock for a programme of cross-breeding with imported strains to upgrade local stock.

In accordance with this programme, the Department of Agriculture has set up 3 semen collecting and 9 distributing centres, which will be increased to 10 and 28 centres respectively, by 1964. By these means it is expected to carry out 20,000 inseminations during the period 1961 to 1964.

In order to realise the aim of improved stock, it will also be necessary to prevent a deterioration of stock through breeding with scrub animals. Government will introduce, with immediate effect, the necessary regulations under the Animals Act to enforce the castration of scrub animals and help improvement of existing herds, especially in particular areas where animal husbandry is to be actively promoted. Government will also provide improved and expanded extension and veterinary services in these districts to encourage farmers to take to animal husbandry as a paying enterprise.

The improvement of animal husbandry is, however, inextricably bound up with the problem of marketing its produce. With a per capita consumption of the order of only 1·5 ozs. of milk per day, we do not have much of a demand for fresh milk and a large number of cows are not being milked. The real solution has thus to be found by a utilisation of the existing resources and creating a demand for fresh milk. This will provide the necessary incentive for the development of the dairy industry.

The Milk Board was set up to provide these facilities. It has expanded its activities and has now nine collecting and four processing centres in operation. The activities of the Milk Board are, however, restricted by the relatively limited demand for fresh milk. The country at the same time continues to import large quantities of processed milk products as shown in table 39.

Table 39—VALUE OF IMPORTS OF MILK PRODUCTS

Rs. Million

1956	1957	1958	1959	1960
41·1	59·6	55·2	77·5	72·0

There seem to be three ways out of this vicious circle :

(i) A demand for fresh milk can be created by a restriction of imports of milk products. This measure will not be very popular because condensed milk and powdered milk have practical advantages over fresh milk, such as keeping qualities, etc. A restriction of imports may however have to be considered in the long run. Meanwhile intensive propaganda needs to be done to encourage the consumption of fluid milk.

(ii) The purchase of all milk offered to the Milk Board for sale. This will increase the losses of Milk Board, which can only partly be reduced by substituting fresh milk for imported skimmed milk at Government Milk Feeding Centres. This loss cannot continue indefinitely.

(iii) The establishment of factories for the production of condensed milk and powdered milk which will absorb the present milk surpluses and provide a ready market for future production. Under present conditions, these factories are likely to run at a loss until sufficient milk is forthcoming to enable them to operate at full capacity.

The last of the alternative is the most acceptable. A condensed milk factory is to be set up at Welikande by 1962/63. This factory which will have an intake of 86,000 pints per day (working double-shift), will provide a stimulus to milk production in the region, and a ready market for the produce of government's major animal husbandry project at Tamankaduwa. Similarly, the Milk Board will establish a spray drying plant at Nuwara Eliya for the production of spray-dried powdered milk. This project which will have an intake of 20,000 pints per day, will absorb the large quantities of milk which are already being produced in the up-country area, as well as the expected output of the Government's Ambawela-Bopatalawa dairy project. It is expected that these two projects will provide considerable scope for the expansion of the Milk Board's purchases, and for the advancement of the dairy industry in general.

Meanwhile, it is necessary that the Milk Board continue the extension of marketing facilities in areas of potential milk production. It is, therefore, intended to open 10 new collecting and chilling centres in various parts of the island to serve the new processing centres to be established in Badulla, Batticaloa, Jaffna and Anuradhapura during the period of the Three-Year Programme. Most important is the proposed establishment of a milk processing centre at Anuradhapura, which will be served by a network of purchasing centres, and which will provide the nucleus for the creation of a dairy industry in the North-Central Province. Animal husbandry and dairying provide an essential basis for mixed farming in the dry zone.

Apart from adequate prices and improved marketing, it is necessary to provide other incentives to stimulate livestock development. As opposed to price guarantees which have been provided in other sectors of agriculture, it is intended to expand livestock and dairy production on large estates by a system of tax rebates as originally provided under the Food Production (Estates) Act. Government will shortly introduce a scheme of rebates under the Land Tax Act in order to encourage management and labour on tea and coconut estates to maintain milch cows, stud-bulls, hogs, poultry and other livestock.

The upgrading of herds by means of artificial insemination, by enforcement of the provisions of the Animals Act, and by the provision of adequate veterinary and extension services, is likely to make a substantial contribution towards meeting our long-term meat requirements. But here too, one of the most pressing short-term problems is that of marketing. At present, the lack of an organized market for cattle has resulted in the villager getting poor prices for his animals. This is also probably the cause of the present artificial scarcity in meat. In order to ensure better prices for producers as well as consumers, and the marketing of meat under more hygenic conditions, Government will shortly establish a Meat Board which will undertake the purchase and marketing of cattle and other livestock.

In addition to the above-mentioned programme for improving the quality and yields of existing herds, Government will also undertake certain specific projects, both for the purpose of direct production of milk and meat, and the production of breeding material for distribution to producers.

The Tamankaduwa Livestock Project

This is a scheme for the development of animal husbandry in the natural pasture lands of the lower Mahaweli basin in the region of Tamankaduwa. The total extent of land available is approximately 20,000 acres with a carrying capacity of 20,000 stock. The project is to be phased over 16 years, and aims at the development of pasture in this region, and the evolution of a high milk-yielding animal by cross-breeding of the Sinhala cow with the Jersey breed. When completed, the project will yield up to 50,000 pints of milk per day, and will provide the milk requirements of the proposed condensed milk plant at Welikande. The project will also provide breeding material for distribution in the area, while the experience gained in pasture and herd management will be utilized for the development of animal husbandry in the Dry Zone, where it has been estimated that over 1.8 million acres are available for pasture development.

So far a total of 250 acres have been developed, and 2,000 local and Indian cattle together with 9 Jersey sires of proved strain have been introduced under this scheme. The table below shows the programme of development for the next three years, together with expected capacity on completion of the project in 1976.

Table 40

Tamonkaduwa Project	*1961–62*	*1962–63*	*1963–64*	*On completion*
Acreage developed	250	1,000	1,000	20,000
Number of head of cattle	2,000	3,000	4,200	20,000
Output of milk ('000 pints)	350	600	750	18,250
Investment ('000 Rs.)	1,250	1,250	900	7,200

Ambewela-Bopatalawa Expansion Scheme

This is a project in the Nuwara Eliya district for the development of 5,000 acres of land (including 2,000 acres under pasture), for the expansion of milk herds on the Ambewela and Bopatalawa farms. At present, these two farms carry about 1,600 animals producing about 9,000 pints of milk per day. By means of this expansion programme, it is estimated that the number of animals will be doubled in 5 years. This project will also provide the milk requirements of the proposed spray-drying plant to be established in Nuwara Eliya for the production of powdered milk. It will also provide breeding material to the public, and will serve as a spear-head for the development of the dairy industry in the up-country area.

Ridiyagama Buffalo Project

The existing buffalo breeding farm at Ridiyagama which presently carries about 350 cows and their followers, and covers an area of approximately 1,000 acres, will be expanded to carry a herd of 2,000 cows over an area of 5,000 acres. It is estimated that 4,200,000 pints of milk per annum will be produced in this farm at the completion of this project. In addition, this farm will provide suitable breeding material for the rest of the country.

Buffalo Breeding

There is a shortage of buffaloes in this country for ploughing and draught purposes. It is urgently necessary therefore to enforce the provisions of the Animals Act relating to the prevention of the slaughter of buffaloes on the one hand, and on the other, to introduce a buffalo breeding programme—especially in the Dry Zone. A buffalo breeding station will therefore be established for the breeding of animals considered suitable for draught purposes.

Pig Farming

Pig farming is an extremely profitable form of animal husbandry. Little investment is required, while management and feeding are also comparatively simple and inexpensive. It is, therefore, intended to encourage the rapid expansion of this line of animal husbandry. With this end in view, Government has established a pig breeding farm at Welisara to provide breeding material to farmers, and piglings to house-holders for fattening. Since religious scruples have in the past inhibited the expansion of this industry, it is intended in the first instance, to concentrate all efforts to encourage pig-rearing in the coastal belt between Chilaw and Kalutara, where the religious factor does not operate to that degree.

The marketing of pork has also presented some difficulties due to the religious scruples of butchers who have discouraged the introduction of pork in the organized markets. This obstacle will be overcome by the establishment of the proposed Meat Board. Government also intends to restrict the import of pork products with a view to encouraging local production.

Goat Farming

Due to the lack of development in goat farming, goats and mutton are imported to the value of Rs. 1.9 million per year, while the cost of mutton to the consumer remains comparatively high. Goat farming is one of the most economic forms of animal husbandry, and can be practised on marginal and waste lands which cannot be put to other productive use. Thus the arid and semi-arid lands of the Puttalam, Mannar and Hambantota districts can be made to yield considerable returns through the development of goat farming. In order to encourage this form of enterprise, and to provide breeding material to farmers, it is proposed to establish large goat farms in each of these districts. These farms will carry over 6,000 animals each, of good meat breeds imported from India. They will provide breeding material for farmers, and will serve as a spear-head for the extension of goat production in these areas.

Goat farming however carries danger of denudation of vegetation and soil erosion resulting from uncontrolled grazing. Action will therefore be taken to manage the herds in such a manner as to permit regeneration of vegetation. Investigations will also be carried out with a view to introduced sheep rearing in preference to goat-farming, where possible.

Poultry Development

Poultry farming is an enterprise which requires relatively low investment and yields comparatively quick returns. The scale of enterprise too permits a wide flexibility, ranging from a back-yard unit of a few birds to large-scale commercial production.

The demand for eggs at attractive prices has stimulated production at all levels over the past few years. This can be seen from the recent decline in imports of eggs, which will be apparent from the figures below.

Table 41—IMPORT OF EGGS FROM 1955 TO 1961

	1955	*1956*	*1957*	*1958*	*1959*	*1960*	*1961*
Nos. (million)	27·16	24·1	26·1	19·6	34·2	28·6	19·7
Rs. (million)	3·3	3·0	3·2	2·6	5·0	4·1	3·1

Despite this trend of increased production, approximately 20 million eggs were imported at a cost of Rs. 3.1 million in 1961. Imports of eggs have appreciably come down to about 9 million in 1962. Local production has made great strides in the past few years, and poultry production is now a popular enterprise. The limiting factors, however, seem to be the short supply of day-old chicks of high laying strains, and the high cost of poultry feed. It is, therefore, intended to increase the flock and incubator strength in Government farms so as to provide increased supplies of day-old chicks to poultry keepers. This function is also being undertaken on a large-scale by private enterprise. Meanwhile, the Department of Agriculture intends to intensify its efforts regarding disease-control, veterinary and advisory services. It is quite possible that the country may become self-sufficient in eggs by the end of the Plan period.

Animal Feed

The shortage of animal feed and coarse grains is now retarding the extension of animal husbandry and livestock production. It has, therefore, become necessary to take immediate action to meet our short, long-term requirements of these grains.

In regard to long-term needs, it is necessary to undertake pasture development especially in the Dry Zone where 1.8 million acres are said to be suitable for pasture development. In future land development schemes, lands of the "pasture class" will be devoted to pasture, with a view to ensuring proper land utilization, as well as developing animal husbandry in the Dry Zone. Efforts will also be directed towards the development of pasture in the Intermediate Zone, especially on coconut lands.

There is, moreover, an urgent need to increase the production of grains such as maize, sorghum and kurakkan, with a view to meeting the short-term needs of the dairy, animal husbandry and poultry industries. While immediate needs will have to be met by extending their cultivation on chenas, it would be necessary in the long run to develop suitable land for more permanent cultivation. Proposals have been made in the section dealing with irrigation and land development, for the cultivation of the unirrigated upland of the Dry Zone with these grains.

Meanwhile, increases in the production of these grains must be sought through increases in the guaranteed price where necessary, and through the provision of adequate credit and marketing facilities. Their cultivation should also be encouraged through extension efforts on existing highland allotments of colonization schemes, and on chenas (in conjunction with the co-operative reforestation scheme). Arrangements will also have to be made (preferably under some foreign aid programme) for the import of the required quantity of coarse grains or a period of 3 years only. By this time, local production should be able to provide the full requirements of the expanded animal husbandry programme.

Coconut poonac is a basic constituent of local animal feed. In the interests of animal husbandry development it will be necessary to stabilize its market price and to prevent its export in large quantities. If exports have to be permitted in the interests of coconut producrs, other arrangements will have to be made for the requirements of the animal husbandry programme.

Adequate arrangements will also have to be made for the supply of rice-bran—which is an important ingredient of local poultry food, and of which there is now a short supply, due to the poor quality of rice milling. This can only be overcome by improvements in the standard of milling. Meanwhile, wheat-bran could be made available from the proposed flour mill. It is also necessary to establish a plant for the production of fish and bloodmeal, which are important components of poultry and animal food. The raw material for the production of these commodities is locally available.

CHAPTER 13

FORESTRY

Out of the total land area of Ceylon, about 60 percent is un-cultivated, consisting of forests or grasslands owned by the State. On the basis of a forest inventory carried out by the Hunting Survey Corporation of Canada, it has been estimated that 44 percent of the total land area is under forest proper. Forests proclaimed as reserves, or proposed reserves, comprise about 17 percent of the total land area.

Ceylon would thus appear to have more than adequate forest resources. But these resources are only partially utilised, and the country continues to be an importer of forest products. Table 42 shows the timber supplied by the Forest Department during the past five years, and the imports of timber into the island.

Table 42·—Local Producttion and Imports of Timber and Wood Products, 1958-1961

(In millions)

(Quantities in solid cu. ft. equivalents)

Source	*1958*		*1959*		*1960*		*1961*	
	Qty.	*Value Rs.*	*Qty.*	*Value Rs.*	*Qty.*	*Value Rs.*	*Qty.*	*Value Rs.*
1. Local Production*								
Forest Department								
Logs, sawn timber, sleepers, poles, etc.	3·283	11·606	3·666	12·379	3·263	9·108	3·548	9·970
2. Imports†								
(*a*) Logs and sawn timber	·176	3·890	·280	4·714	·244	4·117	·227	4·041
(*b*) Tea chests	2·430	13·452	3·018	12·984	2·896	13·226	2·945	13·653
(*c*) Other timber products	·370	2·079	·200	2·148	·339	2·610	·279	2·267
Total imports	2·976	19·421	3·498	19·846	3·479	19·953	3·451	19·961
3. Total Supply‡	6·259	31·027	7·164	32·225	6·742	29·061	6·999	29·931

***Sources*. Ceylon Customs Returns, and the Administration Report, Forest Department.**

***Excludes prduction of firewood.**

†Excludes imports of pulp products.

‡Excludes production of timber by the private sources.

On the basis of the picture of consumption that emerges from Table 42, it would appear that our present total requirements of timber (other than firewood and pulp products) is in the region of about 8.0 million cubic feet per annum. Increasing population and rising standards of living are, however, invariably associated with a rise in the total consumption of timber. No accurate estimate of future timber demand is available. But making allowance for increase in population and per capita consumption, it is estimated that a total quantity of 8.8 million cubic feet (excluding firewood and pulp products) will be required by 1964.

Imports of tea chests constituted 68 per cent. of the total value of our imports of timber products in 1961. It is estimated that our requirement of tea chests is in the region of 3,500,000 chests per year. Of this, the Plywood Corporation produced about 450,000 chests, while the local carpentry industry is estimated to have produced another 250,000. With the widening of the range of softwoods used in the manufacture of tea chests and the systematic exploitation of the Wet Zone forests, no shortage of suitable raw materials is anticipated. The problem is therefore one of processing, and our imports could be eliminated if there is a substantial expansion of processing capacity in the country.

Imports of logs and sawn timber which represent 20 per cent. of the value of all timber imports, amounted to Rs. 4 million in 1961. More than half of this was spent on imports of teak. Teak grows well in Ceylon, and its timber is as good as the imported variety. The plan for reforestation incorporated in the present programme makes provision for the planting of between 3,000 and 3,500 acres with teak annually. Till such time as this teak reaches exploitable girth, it is necessary to make use of other seasoned local timbers in the building and cabinet-making industries, and to allow the continuation of teak imports in limited quanties.

Imports of wood based industrial products like hardboards, insulating board, etc., were valued at Rs. 2.3 million in 1961. A project for the manufacture of hardboard is being examined. The output anticipated from this project is considerably more than our present imports of hardboard. The possibility of extending the range of uses of hardboard—including possibly, its use in the manufacture of tea chests—is being investigated.

Imports of pulp products which are not included in Table 42 were valued at Rs. 37 million in 1961. (Figures relating to the imports of pulp products have not been included in this Table as wood is not the only raw material used in pulp manufacture.) The Eastern Paper Mills Corporation uses approximately 30% imported wood pulp and 70% local pulp from paddy straw and illuk grass, in the manufacture of paper. The Corporation is investigating the possibility of substituting locally produced chemical wood pulp for imported material. The possibility of planting large areas with suitable species of wood for pulping is also under consideration.

Thus if we are to achieve any substantial degree of import substitution in regard to timber products, it will be necessary not only to increase our rate of exploitation, but also to diversify our utilization of forest resources by paying greater attention to the processing of a wider range of existing species. This implies a programme of investment and utilization directed towards these ends.

Investment in forestry has also certain other advantages. Forests provide an existing resource which only awaits exploitation. The investment required to bring this resource into a condition where it could be exploited is relatively small. The capital output ratio is also low, while its gestation period is comparatively short (except in the case of reforestation). Priority should therefore be given to investment in forestry, and every effort should be made to increase the rate of exploitation, in conjunction with a more rational utilization of local timbers based on the processing of a wider range of species. In order to prepare a scientific and economic programme of development on these lines, Government has decided to undertake a pre-investment survey of forest resources, with a view to setting out the future lines of development. Application is to be made to the UN Special Fund for assistance in carrying out this survey.

Meanwhile, in accordance with the principles of this programme, it is necessary to step up the rate of exploitation and utilization of existing resources to immediate and maximum advantage. This implies, firstly, a shift of emphasis from the traditional approach of forest administration to one of commercial exploitation and processing. Secondly, it implies a more rational and economic utilization of our existing resources—especially of the wet zone soft-woods, a hitherto relatively untapped resource. By this means it would be possible, in the short run, to meet a considerable part of our timber requirements. It is necessary, however, to cater for our long-term development needs by the implementation of a systematic programme of reforestation.

On the lines of this approach, and pending the completion of the proposed pre-investment survey, the programme of forestry development has been planned as follows :—

Programme of Development

Firstly, it is proposed to intensify the rate of exploitation by the use of modern mechanised methods. At present the exploitation of our forests is done on the basis of contracts—the contractor felling, transporting and delivering logs to a depot for disposal. The major part of investment in exploitation has in the past been provided by the private sector. Government will continue to give the necessary encouragement to the private sector for further investment in this field. Provision has, however, been made in the 1964 programme for the establishment of a pilot mechanised logging unit for the purpose of Government operation, as well as for the purpose of demonstrating to private contractors the use of modern equipment for exploitation.

Provision has also been made for the construction of access roads to forests, since this is an essential prerequisite for the more rapid exploitation of our more inaccessible forest resources. It is proposed to open up 10 miles of roadway (mainly into the Wet Zone forests) in each of the years of the Three-Year Programme.

Secondly, it is necessary to make provision for the efficient conversion of larger quantities of logs into sawn timber at a more rapid rate. It is estimated that loss and wastage in conversion are sometimes as high as 60 per cent. of the timber sawn. This means that the timber we use represents less than half the volume of logs extracted. Three modern saw mills were erected in 1961. Their performance has so far been poor, partly due to lack of staff. Every effort will be made by improvements in administration to bring up their output to the expected level of 1,000 to 1,200 cu. ft. of sawn timber per day. The programme also provides for the introduction of 8 portable saw mills during the three-year period. These will enable a faster rate of timber conversion in the forest itself.

As for the existing resources, particularly of the Wet Zone soft-wood species, considerable progress has already been made in this direction For instance, the range of soft woods used for the manufacture of tea chests has been increased, while impregnated " Hora " and other light hardwoods have been substituted for more expensive hard-wood species in the production of railway sleepers. More progress in this direction is, however, needed, and funds have been provided for greatly increasing seasoning and impregnation capacity during the Programme period.

With the widening range of timbers made available, it is necessary to break consumer resistance to the use of a wider variety of species. The programme therefore provides for the establishment of timber demonstration and sales centres for popularising these timbers with a view to encouraging a more rational and diversified use of local species.

Fourthly, while the accent of this Programme is on maximum exploitation and most economic utilization of available resources, this is not to be done at the cost of the long-term development needs of forestry. It is therefore necessary to provide for an adequate rate of reforestation so as to ensure sustained yields in the future. It has been estimated that the major portion of the country's timber requirements during the period of the Programme will be obtained from salvage areas to be cleared under Government's irrigation and land development schemes. At our estimated rate of exploitation, supplies from salvage areas will cease in approximately 20 years time, by which time all salvage areas would have been clear-felled. It is necessary to compensate for this loss by reforestation which will provide for our future requirements. The reforestation programme of the Department covers a period of 20 years. At the end of this period it is hoped to have 264,000 acres of new plantations in addition to the 36,000 acres of plantations now existing. The yield from these plantations will gradually take the place of timber now being obtained from salvage areas. Table 43 shows extents regenerated during the past 4 years, and the programme for regeneration during the Programme period :—

Table 43—REGENERATION PROGRAMME

	Actual Acreage				*Estimated Acreage*		
	1958	*1959*	*1960*	*1961*	*1962*	*1963*	*1964*
Number of Acres	1,930	3,785	6,820	8,240	8,000*	9,000*	10,000*
Investment (Rs. million)	·587	·847	1·283	1·721	2·533	1·700	2·000

Source : Forest Department.

*The acreage to be reforested shows an increase, although there is no correspoding increase in financial provision. This is because the new scheme of co-operative reforestation has made possible a considerable reduction in the costs of reforestation.

The programme of investment on the above lines of development is set out in Table 44:—

Table 44—INVESTMENT PROGRAMME—FORESTRY *Rs.*

Item	*1961/62*	*1962/63*	*1963/64*
1. Exploitation (Development of mechanised logging and construction of access roads)	367,998	279,000	685,000
2. Conversion	395,963	291,500	225,000
3. Seasoning and Impregnation	191,046	1,081,000	210,000
4. Timber Demonstration and Sales Centres	250,000	15,000	35,000
5. Regeneration	2,533,000	1,700,000	2,000,000
6. Other	35,153	136,320	—
Total	3,773,160	3,502,820	3,155,000

In the light of the programme of investment and development described above, timber output from the public sector is estimated as 6 million cubic feet in 1961/62 ; 7.5 million cubic feet in 1962/63 and 8 million cubic in 1963/64.

CHAPTER 14

FISHERIES

Fish constitutes a popular item of food and provides an important protein element in the local diet. Per capita consumption of fish in Ceylon is higher than in most South-East Asian countries, with the exception of Malaya and Japan. Actual per capita consumption has shown an increasing trend in recent years and has been in the region of 39 lbs. per annum (west fish equivalent). Local production has, however, not been able to keep pace with this increase as is evident from the imports of fish over the last few years. A reduction in imports during 1961 has been due to the fact that this was a transitional stage from imports by the private trader to monopoly of imports by the C. W. E.

Basic data pertaining to fisheries production, imports, per capita consumption, etc., given in Table 45 shows the position of the fisheries industry over the last few years. While utilising this data, we have to bear in mind that production figures for 1961 are not comparable with those of the previous years. From 1961 onwards production figures were calculated on a more accurate basis due to certain revisions and elaborations. The information collected by the fisheries Inspectors was supplemented by that received from the fishery statistical collectors. Migrant fishing which had so far been left out of calculation has also been taken into account after 1961.

Table 45—Production, Import and Consumption of Fish, 1957-1961

	Units	*1957*	*1958*	*1959*	*1960*	*1961*
1. Production	'000 cwts.	761·30	802·65	895·52	980·17	1,466·30*
2. Imports (In wet fish† equivalent)	do	2,130·45	2,613·92	2,436·66	2,689·59	1,856·99
3. Total consumption (1+2)	do	2,891·75	3,416·57	3,332·28	3,669·76	3,461·00
4. Per capita consumption per annum	do	35·1	39·0	37·0	39·5	36·2
5. Local production as % of total consumption		26	23	26	26	42

* According to revised estimates.

†Converted at a ratio of 35 lb. of dry fish to 100 lb. of wet fish.

Although production has shown a significant increase in the past few years, we are no closer to the goal of self sufficiency than we were five years ago. This is mainly due to the fact that there has been an increase in per capita consumption over the t few years. It is therefore necessary to revise the earlier estimates of future consumption. This is shown in Table 46.

Table 46—TARGETS OF CONSUMPTION UNDER THE TEN YEAR PLAN AND THE REVISED ESTIMATES

	Units	*1962*	*1963*	*1964*
10-Year Plan estimates	million cwt.	3·368	3·458	3·550
Revised estimates	do	4·019	4·139	4·263
Per capita consumption	lbs. per annum	40·8	40·8	40·8

The investment in this field compares favourably with investment in others. First, the capital/output ratios in many lines of fisheries investment are comparatively low. This is so especially in the early stages of fisheries development, before substantial overheads have to be incurred on the construction of harbours, etc. Second, the gestation period of investment in fishing is brief, since returns acrue almost simultaneously with the investment. Third, investment is not required to bring the resource—in this case the ocean into a position where it can be exploited. In this respect it is similar to certain types of investment in forestry, and has obvious advantages in the short-run over investment in land development in the dry zone where investments in land clearing, irrigation and settlement are required before the land can be made to produce. All this indicates the need for urgent action in the field of fisheries—if necessary by diversion of resources from less economic investment. The actual investment in fisheries in the last four years has been comparatively small, as can be seen from the following figures :—

Table 47—ACTUAL INVESTMENT IN FISHERIES SECTOR

Year	*(Rs. M)* *Investment*
1959	3·057
1960	4·823
1961	9·471
1962	13·130
1963	12·045

* Financial provision.

This low investment has been largely due to the fact that the considerable investment envisaged in respect of fisheries harbours did not take place due to failure to complete investigations and designs in time. This delay has in turn set back the programme for provision of shore facilities, trawlers and mechanised boats.

But despite the low investment, output has shown a considerable increase during this period. This is largely due to the fact that the limited investment in the last three years has been in directly productive lines, such as the introduction of mechanised boats rather than the more capital-consuming investments required for harbours, shore facilities, etc. As the discussion later will indicate the possibility of further advancement on these lines without incurring the overheads involved in the creation of the necessary infra-structure is severely limited. Future investment in trawlers or mechanised boats will be contingent on earlier heavy investment on the construction of fisheries harbours and shore facilities. It is therefore clear that the capital output ratios and gestation periods of many lines of fisheries investment will increase in the next phase of fishery development.

This calls for a careful consideration of the pattern of investment in the fisheries sector in the light of the general principles outlined in this Programme. Firstly, it is clear that the next phase of development of fisheries requires capital intensive investment in harbours and shore facilities. This must be provided in the long-term interests of fisheries development. Attempts must, however, be made to reduce the strain of this investment in the short run. Secondly, to balance this capital-intensive and slow-yielding investment, it is necessary to make provision for an immediate increase in production at the least possible cost, by other means. This is sought to be done by a vigorous drive to mechanise traditional craft, and by the continuation, during the next three years of the programme for the introduction of mechanised boats (on the assumption that they will operate from existing anchorages).

Mechanization of Existing Craft

There is a strong case for investment in the improvement of traditional fishing crafts commonly known as "orus", "vallams", "Kattumarams" and "teppams". Firstly, they contribute to 60 per cent. of total production. An improvement, therefore, in their efficiency is likely to make the greatest contribution to total production. Secondly, the capital required for the mechanisation of an existing boat is relatively small, and the capital output ratio of this investment is very low. These characteristics are apparent from table 48 :—

Table 48—RATIOS RELATING TO INVESTMENT IN THE FISHERIES SECTOR

	Capital Output Ratio	*Capitol Foreign Exchange Saving Ratio*	*Revenue to Government Annually per boat*
Orus	0·8:1	1·3:1	1,200
Kattumarams	1:1	8·1:1	1,200
Teppams	0·7:1	1·1.1	1,200

The mechanisation of traditional craft, and the introduction of improved gear have been undertaken in the past three years on a very limited scale partly by the private sector, and partly through the Government loan scheme.

Government has, therefore, decided to expand vigorously the programme for mechanisation of existing craft through a loan scheme for the purchase of engines and gear. A total number of 300 engines per year will be introduced under this scheme during the Programme period, at the rate of 100 each for orus, kattamarans and teppams. The number may exceed the figure of 300 per year if the scheme works satisfactorily. This investment is expcted to increase total production by approximately 30,000 cwt. annually (9 thousand cwts. each from kattumarams and teppams and 10.8 thousand cwts. from orus), valued at over Rs. 1 million.

Introduction of Mechanised Boats

The introduction of mechanised fishing boats was the main line of investment by government in the years 1958-1961. It introduced in 1959 a loan scheme under which 2-ton mechanized boats (costing approximately Rs. 17,500 each, including cost of gear) were issued to *bona fide* fishermen on condition of repayment of the full cost over a period of 3 years. The figures below indicate the number of boats introduced during the period 1959 to 1962 :—

Table 49—NUMBER OF 2-TON MECHANISED BOATS INTRODUCED

	Under Govt. Loan Scheme	*By Private Sector*	*Total*
1959	84	Nil	84
1960	300	200	500
1961	315	Nil	315
1962	500	50	550

Although progress has been substantial in this field, it has been retarded by the following limiting factors :—

(i) Since this a new field of investment, boat-building yards had to come up before the boats could be built.

(ii) The recovery of loans given to fishermen for the purchase of these boats has been very poor. This has to some extent prevented increased resources being allocated for this purpose.

(iii) There was slow progress in the construction of fisheries harbours and shelters which are necessary to accommodate these boats.

Full and accurate information is not available as to the total output from these boats, the income derived by fishermen, the cost of operation, the number of fishing days per year, etc. It is therefore difficult to make an economic appraisal of this scheme. There is need for a comprehensive survey of the operation of this scheme before any future expansion can be undertaken. From the information available, however, it would appear that the scheme is an economic one—although there has been a financial loss to government because of poor repayment of loans by fishermen. The capital output ratio of this line of investment is relatively low (especially as compared to investment in land development), the gestation period short, and the capital employment and capital foreign exchange savings ratios fairly favourable. It has therefore been decided to continue this scheme.

The poor rate of recovery of instalments under the loan scheme has, however, raised doubts about the practical feasibility of continuing the scheme on the present basis.

Table 50—LOANS ISSUED AND RECOVERIES MADE TO FISHERMEN

	Boats delivered (Nos.)	*Loans issued (Rs. M.)*	*Recoveries due (Rs. M.)*	*Recoveries made (Rs. M.)*	*%Recoveries made*
1958-59	84	1·316	0·114	0·036	31·6
1959-60	384	6·475	1·467	0·274	16·8
1960-61	635	10·850	4·336	0·875	19·8
1961-62	997	17·173	8·476	1·478	17·4

It has, therefore, been decided to reduce provision from the 500 boats provided for in the current financial year to 300 in 1962/63, until such time as certain improvements are effected in regard to the administration of this scheme. The following improvements will be effected before embarking on increased investment in future :—

(i) a comprehensive survey of the operation of mechanised boats will be undertaken immediately with a view to ascertaining the daily catch, methods of fishing, operational costs and net returns ;

(ii) the staff of the Loans Branch of the Fisheries Department will be increased in order to effect recoveries and to successfully administer this scheme ;

(iii) a more rigorous system will be introduced for seizure and sale of boats against non-payment of loan instalments ;

(iv) an initial down-payment will be insisted upon on boats given out under this scheme ;

(v) the loan scheme will be opened to all classes of persons who are genuinely willing to undertake production. A higher down-payment will however be insisted upon in respect of middle class persons ;

(vi) the Peoples' Bank will be encouraged to give loans against sufficient security for the purchase of these boats by the latter class of persons. The possibility of transferring the function of issue and recovery of loans from the Fisheries Department to the Peoples' Bank, in respect of all boats to be issued after 1st October, 1962, will be investigated ;

(vii) a scheme for standardisation of marine engines under the loan scheme will be introduced in order to facilitate repairs, maintenance, importation of spare parts, etc. ;

(viii) better repair facilities will be provided for these boats ;

(ix) training classes will be conducted for fishermen in the methods of operation, repair and maintenance of these boats and engines. (This is already being done) ;

(x) improvements will be made to natural fisheries shelters, while construction of new harbours and shelters will be undertaken.

The Government intends to undertake these improvements in the course of 1962/63, and on this basis has decided to increase the rate of investment from 1963/64. The Table below indicates the number of boats to be introduced, the output expected therefrom, and the investment to be made in this field in the years of the Programme period:—

Table 51—DEVELOPMENT PROGRAMME—MECHANISED BOATS

	Boats issued (Number)	*Investment (Rs. M.)*	*Output expected (Cwt.)*
1961-62	362	6·323	113·300
1962-63	300	5·250	93,900
1963-64	500	8·750	156·500

Experience in the operation of the 28 ft. boats (approximately 2 tons in weight) has shown that they have not in fact gone farther afield than the traditional fishing boats, nor exploited the various types of gear and methods of fishing which would be possible from this improved type of craft. It is, therefore, necessary to encourage fishermen to venture into deeper waters, and to diversify their gear for the exploitation of more varied methods of fishing.

Secondly, it will also be necessary to encourage the construction of larger types of boats ranging from 32 to 40 feet in length, for operation in deeper waters. Since it will not be feasible for resourceless fishermen to undertake fishing on this scale, private operators with adequate resources will have to be attracted to this field, the necessary credit being provided through the Peoples' Bank or other lending agencies.

Trawlers and Tuna Boats

Very little progress has been made in the expansion of deep sea fishing through investment in trawlers and tuna boats during the last three years. Government activity is still limited to the two trawlers that operate on the Wadge Bank. Although funds were provided for the purchase of one trawler in the current financial year, it is unlikely that this trawler will be in operation this year. Meanwhile 2 trawlers have been introduced in this period by the private sector, and are operating successfully from the Mutwal Fisheries Harbour. Government will encourage further investment by private entrepreneurs in this field, by making available to them the necessary harbour facilities at Galle.

The need for the construction of harbours prior to investment in trawlers not only slows down the rate of investment in this field, but also greatly increases the capital requirements of this Programme. Although the capital output ratio of this type of investment is thereby increased, this is still an economic type of investment as will be seen from the Table at page 49. However, in view of the shortage of capital resources, and the need for preference generally to be given to investments with low capital output ratios and quick returns, it is necessary that the programme for harbours and trawlers be planned in the following manner. Firstly, as many trawlers as possible should be introduced with the utmost speed and minimum investment on harbours. This implies the maximum utilisation of existing harbours by improved organisation, resulting in a quicker turn round of boats, and the introduction of more trawlers. This also implies improvements to existing harbours and shore facilities (in this case the facilities at Mutwal Harbour) in preference to the construction of new harbours, with a view to introducing more trawlers at lowest cost and least delay. Secondly since the construction of new harbours is essential for future development, their construction should be undertaken by government immediately. But in order to reduce the burden of investment on government, private and foreign capital should be encouraged to undertake investment in shore facilities and trawlers. It has been decided to develop the Galle fisheries harbour for trawler operation on these lines.

In accordance with the first of these principles, Government has decided to introduce as many trawlers as possible with improvements in organization and in shore facilities in the Mutwal fisheries harbour. It is estimated that as a result of these improvements it would be possible to operate 5 additional trawlers from this harbour by 1963/64 and provision is being made for them in 1962/63 on the basis of purchase on instalment terms. Two new trawlers will be introduced in 1963/64 if it is decided to dispose of the existing trawlers which are too old for economic operation.

Experience in the operation of trawlers in the past has however shown the need for considerable improvement in the provision of docking and repair facilities, as well as in the training of personnel, and in the system of payment of crews. Government will therefore, undertake the following action prior to the introduction of these trawlers :—

(i) Recruitment of an engineer to organise the machine shop to handle repairs and maintenance of trawlers.

(ii) Priority for docking and slipping facilities for trawlers.

(iii) Inclusion of provision in the Merchant Shipping Act for the issue of certificates for Masters, Mates and Engineers of fishing boats, so as to enable the recruitment of necessary staff.

(iv) Introduction of a change in the system of payment to trawler crews so as to provide an incentive for longer hours of operation. An incentive scheme combining a lower daily wage with a proportionately higher bonus for increased catches, is contemplated.

In accordance with the second principle referred to above, it is government's intention to encourage private (foreign and local) investment in the field of trawler operation. This is to be done in connection with the development of the Galle Fisheries Harbour Project. Government has invited foreign investors for the development of trawler and tuna fishing from Galle harbour on the basis that harbour facilities will be provided by government, while foreign capital (in conjunction with private local capital, if necessary) undertakes investment in the introduction of shore facilities and the necessary trawlers and tuna boats. The Galle fisheries harbour will be completed by the end of 1964, and it is expected that there will be a substantial development of deep sea fishing from Galle harbour from 1964.

Fisheries Harbours and Shelters

The construction of fisheries harbours is an essential base for the next phase of our fisheries development. It has been pointed out earlier that both in respect of trawlers and mechanised boats, the possibility of expansion on the basis of present anchorages, has almost been exhausted. It is therefore evident that any future development of mechanised fishing will be on the basis of capital intensive investment, and would depend on the progress made in the provision of adequate harbour facilities.

This is a field in which, insufficient progress has been made. As against a projected investment of Rs. 41.1 million in this field in the first four years 1958-1961, only Rs. 1.35 million had in fact been provided. This unsatisfactory rate of investment is a result of delay in the completion of designs for harbours and shelters. A separate Fisheries Harbour Unit was set up for this purpose in the Harbour Engineer's Division of the Port Commission, but progress has been slow due to lack of staff. The possibility of obtaining foreign technical assistance to strengthen this division, or to undertake the parallel investigation of other harbours, has therefore to be considered.

Meanwhile, in accordance with the principles set out earlier in this programme, it is necessary firstly to introduce as many boats as possible with improvements and additions to existing harbours, and secondly to shift part of the capital and technical burden of harbour development (particularly in regard to shore facilities) on to the private sector. In accordance with the first of these principles, immediate improvements are to be undertaken in respect of shore facilities at Mutwal fisheries harbour, so as to enable the introduction of 5 additional trawlers. In regard to the second, government has invited foreign participation in the development of Galle fisheries harbour on the basis that government will construct the main harbour, while foreign capital will undertake the development of shore facilities and trawler operation. It is expected that on this basis the Galle Harbour will be ready for trawler operation at the end of 1964.

Meanwhile, it is necessary to make adequate provision for shelters for the increasing fleet of mechanised boats. Here too, progress has been far behind schedule. Detailed investigations have been commenced only in respect of two shelters at Beruwela and Tangalle respectively. These too, will be completed only in 1964. It is therefore necessary to undertake investigation of other shelters, and to commence their construction along with the two now under investigation. Foreign technical assistance will be called for, if necessary, to accelerate this development. For a completion of the programme of harbours and shelters, a financial provision of Rs. 1 million in 1961/62, Rs. 3.1 million in 1962/63 and Rs. 3.6 million in 1963-64 has been made.

Inland Fisheries

Ceylon has more than 200,000 acres of fresh waters and approximately 300,000 acres of brackish waters, which have a high potential for fish production. It is only recently that these resources are being exploited.

The Fisheries Department, as far back as 1945, started a systematic scheme for introducing fast growing edible fish into fresh water tanks and rivers. The fish introduced have been gourami, the Milk fish *Chanos*, Indian River Carp *Catla*, Chinese Carp, the Dwarf Gourami *Trichogoster*, Tilapia and the Common Carp *Cyprinus*. Of these, certain varieties particularly, the *Tilapia* have established themselves firmly and are being fished on commercial scales.

Estimated production has increased from 1 million pounds in 1958 to 7½ million pounds in 1962. This averages roughly to about 38 pounds per acre, which compares favourably with other countries ; and future development will be geared to increase this output to more than double this figure, i.e. to 100 pounds per acre, which can be regarded as an optimum output for unrestricted and still waters.

This will be achieved by a more intensive stocking programme, extending to village tanks also, a more intensive limnological survey, introduction of fish culture methods, more intensive exploitation and popularising consumption of fresh water fish.

Regarding brackish water fisheries, the total annual catch has been estimated at 3,400 tons or about 20 lb. per acre, which is a low figure. The Department is presently carrying out a programme to increase this production. On an experimental acre plot at the Departmental Fish Farm in Pitipane, the cultivation of Chanos (Milk Fish) produced excellent results giving a harvest of 430 lb. in six months. It is the intention of the Department to popularise this fish cultivation method among fishermen living in the vicinity of brackish water areas.

The Brackish Water Fishery Development Programme includes experiments on Prawn and Grey Mullet farming, cultivation of Tuna bait and popularising brackish water fish culture methods. This will lead to a considerable increase in brackish water fish production.

Fisheries Targets

The expected output from the Marine and Inland Fisheries Programme as discussed above is given in Table 52.

Table 52—Estimated Production of Fish during Short Term Programme

('000 *Cwts.*)

	1961	1962	1963	1964
Powered				
(*a*) Government Trawlers	16·8	22·3	32·0	79·0
(*b*) Private Fishing Companies	29·8	31·1	60·0	60·0
(*c*) Fish purchasd outside normal charter	6·0	14·2	18·0	18·0
(*d*) Government loaned Mechanised Boats	152·1	228·4	458·0	559·0
(*e*) Private Mechanised Boats	22·8	24·4		
(*f*) Mechanised Orus	4·3	7·2	26·0	53·0
(*g*) Mechanised Vallams	34·6	34·3	67·0	89·0
(*h*) Mechanised Theppams and Kattumarams	24·8	31·5	89·0	154·0
Total	291·3	393·3	750·0	1,012·0
Non-Powered				
(*i*) Orus	183·8	196·2	200·0	196·0
(*j*) Theppams and Kattumarams	186·6	258·2	274·0	268·0
(*k*) Vallams	163·6	230·7	252·0	247·0
(*l*) Beach Series	566·3	553·4	526·0	499·0
(*m*) Fresh Water Fish landings	66·9	70·0	79·0	88·0
(*n*) Othr miscellaneous methods	7·8	11·5	12·0	12·0
Total	1,175·0	1,320·0	1343·0	1310·0
Grand Total	1,466·3	1,713·3	2,093·0	2,322·0

Survey of Marine Resources

The above programme of action is based on the assumption of adequate stocks of fish in our seas. In the absence of definite date, the Programme provides for a balanced development of inshore and offshore fisheries. Meanwhile, it is necessary to obtain reliable data relating to our fisheries resources to enable longterm planning. This would involve biological and hydrological surveys, as well as population and migratory studies. It is necessary that the Research Division of the Fisheries Department should be provided with the vessels and equipment to undertake these surveys.

Provision has already been made for the purchase of a research vessel, and the first step has been taken by the filling of the post of Assistant Director (Research) in the Department of Fisheries. It is necessary that the required surveys be undertaken as early as possible.

Fisheries Statistics

The importance of adequate and accurate statistics for evaluating past progress or planning future action, cannot be over-emphasised. Reliable statistical information is sadly lacking in the field of fisheries, not only in regard to fisheries resources, but also in regard to the quantity and variety of daily catches, output from various types of craft, prices, marketing, etc. This is largely due to the fact that production is diffused, being undertaken by a number of small craft operating from various points along the coast. Considerable improvement is, however, necessary in regard to staff, organisation and procedure relating to the collection of fisheries statistics.

SECTION II

INDUSTRY, POWER, TRANSPORT AND CONSTRUCTION

CHAPTER 15

GENERAL

The increase of our national production cannot be achieved merely by increasing agricultural output, whether plantations or other crops. It is agreed, generally, that rapid economic development involves a fast rate of industrial investment and production. In the long run, it is the high levels of industrial production that would be able to buy up the increasing agricultural output and in turn supply a prosperous agricultural population with cheap industrial products. The expansion of employment, too, is heavily dependent on the development of both large scale and small scale industries. Labour, is absorbed directly by large and small industries and indirectly by subsidiary industries and activities in the fields of transport, trade and finance. As much money that is required for planned development of industries as well as of related areas such as power and transport must therefore be provided in the very interests of providing higher incomes, better standards of living and more employment on a permanent and lasting basis to the people.

Out of our total national product of Rs. 6,169 million in 1961, the relevant shares of Agriculture ; Industry ; Transport ; Social Services ; and other Services were as follows :

	Rs. Million	*Percentage*
Agriculture	3,179	52
Industry and Power	785	13
Transport	385	6
Social Services	627	10
Other Services	1,193	19
	6,169	100%

(Source : Department of National Planning. The figures here do not tally with the Central Bank's gross figures due to computational differences. All figures were based on valuation at current factor cost prices.)

It will be seen from the table that Industry is making a small contribution to our national product. The Ten-Year Plan envisaged an increase in the share of Industry, Construction and Electricity, in total national production to 23.5 per cent. by 1968. In advanced countries such as the United Kingdom and the U. S. A., the percentage share of Industry and

Construction alone in total national output is in the region of 36 to 44 per cent., while that of Agriculture and Mining is about 7 to 10 per cent.

Another indication of the low level of our industrialisation is given by our import figures. Industrial imports in 1961 were as much as 58 per cent. of all imports. Future prosperity is closely linked to the success we achieve in substituting these industrial imports with local production as soon as possible. The import controls recently imposed to save foreign exchange make a number of those commodities either unavailable or high-priced and further emphasise the need for rapid industrialisation. It is expected that with these import controls the import of consumption goods other than basic foods would be reduced from over Rs. 600 million to Rs. 370 million. The purpose of these import controls, apart from saving foreign exchange, is not to deny the people the enjoyment of those commodities so restricted, but to encourage their local production. This is now taking place both in the public and private sectors.

The following figures illustrate the targets which the Government has in view in regard to production of some of the important commodities.

	Past Imports (*Mostly* 1961)	*Current Production*	*Total expected Output after Investment Programme*
1. Sugar	186,000 tons	300 tons	45,000 tons
2. Cement	215,000 tons	82,800 tons	475,000 tons
3. Textiles	128,000,000 yds.	22,000,000 yds.	48,000,000 yds.
4. Ceramics	1,580 tons	480 tons	3,300 tons
5. Leather Footwear	400,000 pairs	2,250,000 pairs (approx.)	2,750,000 pairs (Addl. production in private sector not available)
6. Paper	16,025 tons	4,500 tons	9,000 tons
7. Fertilizer (Ammonium Sulphate)	138,588 tons	nil	300,000 tons
8. Car tyres and tubes	167,000 tyres 96,000 tubes	nil	250,000 tyres
9. Petroleum	965,000 metric tons	nil	1,275,000 metric tons
10. Iron and Steel	33,000 tons	nil	35,000 tons
11. Flour	250,000 tons	nil	50,000 tons
12. Tiles	26,000,000 tiles	32,000,000 tiles	40,500,000 tiles

In respect of sugar, cement, ceramics, paper, fertilizer, tyres, petroleum, iron and steel, and flour, current and future production are and will be entirely in the public sector. In regard to textiles, the production is composed of the output of the small-scale sector producing through hand looms and power looms the private sector and the public sector. In regard to leather and tiles, output is made up partly of private sector and partly of public sector production.

To achieve these targets the Government has planned an investment in the public sector which rises from Rs. 78 million in 1961-62 to nearly Rs. 100 million in 1962-63 and about Rs. 200 million in 1963-64. Similarly, Government investment in the small scale and cottage industry will rise from a little over Rs. 7 million in 1961-62 to over Rs. 12 million in 1962-63 and over Rs. 15 million in 1963-64. For power, the Government has provided for about Rs. 80 million in 1961-62, Rs. 94 million in 1962-63 and Rs. 7/ million in 1963-64. In transport and communication, the investment contemplated in the public sector is nearly Rs. 140 million this year, Rs. 146 million next year and Rs. 141 million the year after.

In the case of transport, some of the expenditure is related to development projects such as improvements to the port of Colombo and the railway line to the Puttalam Cement Factory and to Trincomalee from where a large part of the tea is now exported. A considerable part of transport investment is devoted to maintaining our roads in good condition as well as providing necessary additions. A further significant part of expenditure is for the improvement of the bus services which are basic to the life and comfort of the masses of our people.

The Government was able to invest considerable sums in transport in the past. It has not therefore sought to increase the level of investment considerably although there are many unsatisfied needs which, however, cannot be met except at the cost of the more urgent requirements of industry and power. The large investment in power is necessary, because power is the motive force of all industrial activity. It is also a necessity for domestic uses.

In the past, there has not been adequate investment. In 1958-59, the investment in power was only Rs. 13 million, in 1959-60 about Rs. 13 million and in 1960-61 about Rs. 20 million.

In fact, the Government expects a shortage in 1965-66 unless supply is increased and steps are taken to start work on certain projects immediately. Hence the necessity for Government to invest on the scale mentioned earlier.

Public investment in industry has also been very low. We have had an investment, in large scale public sector industry, of about Rs. 18 million in 1958-59, an estimated Rs. 35 million in 1959-60 and about Rs. 60 million in 1960-61. In view of the need for a rapid growth of national income much higher levels of investment in industry have become necessary.

Apart from stimulating production in the private sector, the government has decided to reach high targets in the public sector in the production of such goods as sugar, cement, textiles, ceramics, leather, paper, fertilizers, tyres, and tubes, petroleum refinery, chemicals, oils and fats, salt, hard board, milk products, &c.

The small scale and cottage industry sector which is vital to relieving under-employment and low incomes in the rural areas has had very little investment in the past. It was less than Rs. 1 million in the years 1958-59 and 1959-60 respectively, and only a little over Rs. 2 million in 1960-61. It is now proposed to step up this investment considerably. Though the budget alone nearly Rs. 8 million would be invested in this sector in 1961-62, about Rs. 13 million in 1962-63 and over Rs. 15 million in 1963-64.

The Government is aware that industrial development is not merely a matter of providing more and more investment. It is ensuring, through the Short-Term Programme that all necessary organisational and policy measures are undertaken to bring about the appropriate allocation of investment between competing fields, so that the more eligible undertakings get preference in investment. Government has further initiated measures to see that adequate departmental organisation exists to undertake these steps and also to avoid delays in the time taken for construction and bringing into operation of the various industrial projects. Finally, the Short-Term Programme envisages taking of all necessary measures for ensuring in actual practice maximum output from these investments. This will be done in two ways. On the one hand greater use will be made of by-products from existing industries, emphasis will be given to co-ordinated programmes in other sectors such as the farm programmes in cotton, sugar, animal husbandry and fruit growing, and production lines developed that are complementary as between two or more industries (for example the use of chlorine in paper and steel manufactures). Measures are being taken to improve the level of management, labour efficiency, marketing and related items to ensure optimum output. The Short-Term Programme also seeks to ensure, as a matter of high priority, the greater utilisation of existing capacity.

In regard to Power as well, it is the intention of Government not merely to undertage the necessary investment, but to introduce organisational and policy changes required for efficient and economical supply of Power. To this end a Water Resources Board is to be set up. Further, an examination will be undertaken of the economics of Power supply, in order to effect reduction in costs.

In the field of Transport, a central authority is proposed to be established to co-ordinate all forms of transport in accordance with the needs of the developing economy and to undertake an analysis of the rates and fares charged by the different systems of transport and over the various types of transport services provided, such as freight and passenger traffic. A Road Planning Authority is also to be established in order to ensure a uniform policy by the various authorities that construct and maintain roads. It is proposed, through the co-ordinating policies and cost studies to eliminate losses now incurred in rail and road transport.

There is another sector of activity in which Government expects to effect considerable reduction in costs. This is Construction which covers building activity in various sectors of industry, power, irrigation, health, housing, education, and so on. Expenditure on Construction is the largest single financial component in any plan or programme. Better organisation of this field of activity can therefore result in considerable financial savings. Cost rises can be prevented or held down, among other things, by planned production of constructional materials of various sorts, by improved organisation in handling bottle-necks and by introducing standards for designs and norms for costs.

The large public expenditure on industry recommended by the Short-Term Programme was dictated by the need to raise the income and satisfy the welfare needs of the people in a permanent and stable way. They may involve foregoing of some consumption immediately. The sacrifice will however be made out of income levels and social benefits which are considerable, when compared with those in other countries in this part of the world. We would be wise to make the sacrifice now without waiting to see our living standard brought down to that obtaining in some other Asian countries and before the imperative of development forces much greater hardship upon us. The Government is confident that the pattern of development not only in industry, power and transport but in all other sectors and over the entire economy covering private and public sectors will lead to the desired results.

CHAPTER 16

INDUSTRY—PUBLIC SECTOR

I—The Programme and Realisation

The Investment Programme

The public sector industries programme refers broadly to three categories of industrial activity. The first category relates to activities sponsored and carried out by the Ministry of Industries; the second consists of those for which provision has been made in other Ministries such as the Kantalai Sugar, Condensed Milk and Spray Drying projects of the Ministry of Agriculture, and the third comprises the industries carried out by the Gal Oya Board.

Table I sets out the investment on the projects over the Short-Term Implementation Programme period.

It will be seen that, on the basis of realised investment, there is still no assurance that investment in the coming years will reach the desired levels. One of the major problems to be tackled in the sector is, therefore, the failure of actual investment to rise to expected levels.

In addition to the projects mentioned in the Table I, the Ministry of Industries has on hand preparatory work on several projects. The volume of work and the expenditure incurred on the Projects would vary according to what it is possible to undertake during the short-term period. The provision of Rs. 1 million in the estimates against investigations is meant to cover these items. The investment on these could materialise in some cases during the short-term period, but in some others like sugar by-products even the completion of studies would require physical availability of adequate cane for the main factory itself. The items contemplated by the Ministry include—

- (i) Development of Chemical industry as follows:
  - (a) Manufacture of petro-chemicals,
  - (b) Expansion or rationalisation of existing chemical industry based on salt,
  - (c) Manufacture of synthetic fibres.
- (ii) Manufacture of by-products of the fishing industry;
- (iii) Manufacture of porcelain ware ;
- (iv) Graphite processing and by-products;
- (v) Glue manufacture;
- (vi) Glass and by-products;
- (vii) Manufacture of agricultural tractors; and
- (viii) Manufacture of sugar by-products.

Table I SHORT-TERM IMPLEMENTATION PROGRAMME INDUSTRY—PUBLIC SECTOR (*Rs. Million*)

	Projects	1962			1963			1964		
		*Budget**	*Extra Budget*	*Total Public Sector*	*Budget**	*Extra† Budget*	*Total Public Sector*	*Budget**	*Extra Budget*	*Total Public Sector*
1.	Hardboard (Rubberwood)	1·575	—	1·575	—	2·850	2·850	1·080	—	1·080
2.	Industrial Estates	5·117	—	5·117	—	—	—	—	—	—
3.	National Small Industries	4·070	—	4·070	5·280	0·750	6·030	0·364	—	0·364
4.	Iron and Steel	10·000	—	10·000	22·880	7·200	30·080	32·000	—	32·000
5.	Cement	3·000	13·841	16·841	—	23·970	23·970	28·204	—	28·204
6.	National Textiles	11·350	—	11·350	4·000	—	4·000	15·000	—	15·000
7.	Ceramics	2·675	—	2·675	3·500	—	3·500	3·500	—	3·500
8.	D. I. Leather	2·172	—	2·172	0·200	—	0·200	0·111	—	0·111
9.	Eastern Paper Mills	3·940	—	3·940	3·500	—	3·500	....	—	—
10.	Mineral Sands	2·100	—	2·100	—	—	—	—	—	—
11.	Fertilizer	0·450	—	0·450	—	—	—	31·000	—	31·000
12.	Tyre and Tube	6·000	—	6·000	15·000	—	15·000	26.000	—	26·000
13.	Flour Mill	—	—	—	—	—	—	11·600	—	11·600
14.	Hardware and Small Tools	—	—	—	2·000	—	2·000	2·095	—	2·095
15.	Silicate Brick Factory	—	—	—	—	—	—	3·569	—	3·569
16.	Petroleum Refinery	—	—	—	—	—	—	60·000	—	60·000
17.	Engineering Corporation	—	—	—	0·500	—	0·500	—	—	—
18.	Investigations	1·000	—	1·000	1·000	—	1·000	—	—	—
19.	C.I.S.I.R.	—	—	—	0·750	—	0·750	—	—	—
20.	Paranthan Chemicals	—	—	—	—	—	—	—	—	—
21.	Oils and Fats	—	—	—	—	—	—	—	—	—
22.	Plywood	—	—	—	—	—	—	—	—	—
23.	Salt Department	0·679	—	0·679	0·615	—	0·615	0·299	—	0·299
24.	Salt Corporation	—	—	—	—	—	—	2·500	—	2·500
25.	Mineralogy	0·450	—	0·450	0·150	—	0·150	—	—	—
26.	Excise	0·333	—	0·333	0·351	—	0·351	0·222	—	0·222
	(Ministry) Total	54·911	13·841	68·752	59·726	34·770	94·496	217·544	—	217·544

SHORT-TERM IMPLEMENTATION PROGRAMME INDUSTRY—PUBLIC SECTOR—(*contd.*)

Projects	1962			1963			1964		
	*Budget**	*Extra Budget*	*Total Public Sector*	*Budget**	*Extra† Budget*	*Total Public Sector*	*Budget**	*Extra Budget*	*Total Public Sector*
27. Gal Oya (Sugar)	3·000	—	3·000	1·600	—	1·600	—	—	—
28. Kantalai									
(i) Sugar	1·561	—	1·561	1·517	—	1·517	1·474	—	1·474
(ii) Alcohol	1·924	—	1,924	—	—	—	—	—	—
29. Marketing (Fruit Canning and Processing)	—	—	—	—	—	—	3·352	—	3·352
30. Milk Board									
(i) Condensed Milk	2·785	—	2·785	0·960	—	0·960	—	—	—
(ii) Spray Drying	—	—	—	0·400	—	0·400	1·144	—	1·144
(iii) Repacking Vita Milk	0·240	—	0·240	—	—	—	—	—	—
Total Public Sector	64·421	13·841	78·262	64·203	34·770	98·973	223·514	—	223·514

* Provisional Estimate.

† Composed of Corporation surpluses available in cash and deposit accounts with Treasury against which actual cash may not be available.

The Output Performance

There is another aspect of industrial development in the public sector which needs mention, viz., performance in output. While it takes time for projects to yield optimum capacity output, in the case of some of our industries there has been undue delay. Perhaps the most prominent cases are the Gal Oya Sugar, the Kantalai Sugar and the Paranthan Chemicals factories. The Table below sets out the percentage of actual output to capacity output of a number of public sector industries.

	Project	*Percentage Level of attained Output vis-a-vis Capacity Production*
1.	Cement Corporation	80·47
2.	Eastern Paper Mills	100·00
3.	Ceylon Ceramics	100·00
4.	D. I. Leather Products	100·00
5.	Gintota Plywoods Corporation	65·00
6.	Paranthan Chemicals	29·24
7.	Ceylon Mineral Sands	43·73
8	Kantalai Sugar	2·15
9.	Ceylon Oils and Fats	47·22
10.	National Textiles	66·78
11.	G. O. D. B. (Sugar)	9·96
12.	Small Industries Corporation	100·00

(*Notes.*—(1) Paper : Present production is in fact about 52 per cent. over original rated capacity, and has been achieved by certain marginal investments in place of duplication of original plant.

(2) Textiles : For year 1961. This underestimates the actual present level as 2 shift operations commenced only in September, 1961.)

It has not been possible to estimate precisely the contribution of industrial output to gross domestic product except on an overall or macro-economic basis. This contribution is likely to be much less than is expected from already invested capital. This then is the second major problem of industrial development, viz., that of optimum capacity production within reasonable periods.

The capacity of our industries to earn profits and provide re-investment surpluses is also tied up with this problem. At present re-investment surpluses are available only in a limited number of cases like Cement.

The Investment Composition

There is a third aspect of our investment programme to which also attention should be paid and that is the composition of the aggregate investment. Industrial development is not merely a matter of magnitude of total resources invested. The pattern of industrial investment is as important as the volume of investment. The particular circumstances of our economy require priority to be given to certain types of investments that would increase production, show profits, provide employment, and/or save foreign exchange faster than others. An ad hoc approach could result in the selection of industries that are poor candidates for investment as judged by these and other criteria. A wrong selection may impose a burden on the economy, saddle it with unremunerative projects and deprive it of the benefits of other more desirable investments which are elbowed out. An uneconomic pattern of industrial investment results from imperfect knowledge of available physical resources, inadequate and delayed utilisation of known physical resources, e.g., sugar cane and its by-products like bagasse, or brine, chemicals and other co-products like chlorine and hydrogen, and imperfect information about potential markets for these products. Hence even if we succeed in solving the first two problems, viz., inadequate investment and output, our efforts will be wasted, if we do not, to start with, adopt the right pattern of investment.

The rest of this chapter deals with these three broad aspects of industrialization. We may take up the last problem first.

II—Realisation of the Investment Composition

Table II on ratios of output, foreign exchange savings, profits, and employment to total capital employed for various industries in the public sector is revealing. The ratios relate to the criteria that have been adopted to assign priority to different projects. The average gross capital output ratio derived from the Plan for industry was 2.98: 1. There is, natually, variation between the different industries. However, as is evident from the Table, almost all the industries show ratios which are higher than this average assumed by the Plan. The ratio for the public sector as a whole under the Programme is 7.5 : 1. This is certainly high. If medium and small-scale industries are fully included, the ratio would appear to be about 2 : 1. The high ratio is due primarily to the inclusion of some very high capital using industries. Further analysis shows that certain industries, for example Iron and Steel, do not satisfy any of the criteria for priority selection which have been adopted. On the other hand, certain industries like fertilizer, which are also fairly highly capital intensive but have other advantages such as a better ratio of foreign exchange saved to capital employed have not been given adequate importance. On a preliminary reckoning it would appear that the Fertilizer and Refinery projects would save foreign exchange of the order of Rs. 100 million a year.

There is another category of industries, such as the two Sugar projects and the Condensed Milk project, which do not come out well. But their relatively poor performance is due to the almost complete non-availability or non-utilisation of domestic raw materials. The implication is not that these projects should be dropped but that the highest possible priority should be given to the complementary programme of producing the raw materials in the country. To distribute funds in these circumstances to other new projects at random would amount to dissipating our development effort. The same would apply to Textiles. Although the import of cotton does not appreciably affect the economics of the industry, importing is still a poor substitute for the production of local cotton. The same applies to Paper, where all the wood pulp is imported.

This could suggest priority for investment in pulp making, either in conjunction with the proposed rubber hardboard project or separately by exploiting other usable raw materials. The hardboard project itself has worked out the production possibilities of hardboard with materials besides rubber-wood, e.g., with bagasse. It has then sought to evaluate its relative place in the investment programme in light of comparative costs of other process and future market trends.

Delay in making investments in by-products in Sugar and Chemical shows an imperfect handling of priorities. By-products utilisation leads to better capital output ratios than investment in the production of unrelated goods. There is also a range of industries which can be based on fish, domestic fruits and glass sands. The return to capital and the saving of foreign exchange would possibly be greater in these cases than, say, in Iron and Steel and probably Flour.

A further point to be considered in setting the pattern of investment is the avoidance of over-capitalisation, taking into acount both the public and the private sectors. The Leather industry seems to be a case in point. Another relevant factor is that in respect of almost all the indicators the medium and small-scale industries sector shows a much better performance than the large scale. In the case of industries which are capable of being built on a small scale it is essential to investigate thoroughly the economics of scale before decisions to include them in the public sector are made. Obviously a refinery cannot be on a small scale. But several others in the public sector can be.

The gestation periods of various projects in the public sector vary between 2 and 5 years for production to start and between 3 and 6 years for capacity production to be attained. It is evident therefore that almost all these projects would not show appreciable output within the period of the short-term programme. This is not a point against investment in these projects ; it only serves to underline the need for greater reliance on small scale industry and intensive agriculture to secure increases in the gross domestic product in the short period.

TABLE II

SHORT-TERM PROGRAMME *

Corporation	*Gestation Period*		*Capital output ratio at capacity output †*	*Capital Labour ratio at capacity output*	*Capital Foreign exchange saving ratio at capacity output*	*Capital Foreign aid ratio*	*Capital profit ratio at capacity output ‖*
	Initial production	*Capacity production*					
(1) Cement :							
(*a*) Puttalam	3 years	n.a.	3·98 : 1	87,500 : 1	4·61 : 1	n.a.	4·38 : 1
(*b*) K.K.S. (Expansion)	2 ,,	3 years	3·73 : 1	76,667 : 1	4·69 : 1	2·3 : 1	4·11 : 1
(*c*) Galle	2 ,,	3 ,,	2·44 : 1	187,500 : 1	2·14 : 1		2·60 : 1
(2) Ceylon Tyre and Tube	4 ,,	n.a.	4·93 : 1	9,404 : 1	2·53 : 1	5·18 : 1 (62/63)	6·17 : 1
(3) Ceramics							
(*a*) Negombo	3 ,,	n.a.	5·00 : 1	19,531 : 1	6·25 : 1	13·3 : 1	14·29 : 1
(*b*) Boralesgamuwa	3 ,,		4·70 : 1	21,176 : 1	4·70 : 1		8·47 : 1
(*c*) Kaolin	3 ,,		9·30 : 1	52,830 : 1	1·40 : 1		14·00 : 1
(4) D. I. Leather	3 ,,	4 years	1·94 : 1	10,769 : 1	0·74 : 1	n.a.	3·04 : 1
(5) Eastern Paper	3 ,,	n.a.	7·79 : 1	52,144 : 1	4·22 : 1	n.a.	11·47 : 1
(6) National Textiles, Veyangoda	4 ,,	5 years	8·93 : 1	58,714 : 1	3·74 : 1	46·67 : 1 (62/63)	11·14 : 1
(7) Iron and Steel (*a*)	4 ,,	n.a.	18·18 : 1	250,000 :1	22·86 : 1	5·26 : 1 (62/63)	40·00 : 1
(8) Hardboard	3 ,,	n.a.	5·83 : 1	35,523 : 1	n.a.	n.a.	9·72 : 1
(9) Small Industries—Bricks and Tiles	2 ,,	3 years	7·29 : 1	37,091 : 1	3·92 : 1	n.a.	14·37 : 1
(10) Flour Mill	2 ,,	2 ,,	9·15 : 1	129,787 : 1	55·45 : 1	2·7 : 1	12·12 : 1
(11) Petroleum Refinery	4 ,,	5 ,,	n.a.	300,000 : 1	2·50 : 1	1·5 : 1	n.a.
(12) Fertilizer	5 ,,	n.a.	12·43 : 1	205,510 : 1	1·77 : 1	2·5 : 1	14·80 : 1

(13) Hardware and Small Tools	3 years	n.a.	2·22 : 1	22,113 : 1	2·49 : 1	15·63 : 1 (62/63)	3·93 : 1
(14) Salt Department (Expansion only)	n.a.	n.a.	2·21 : 1	n.a.	2·01 : 1		n.a.
(15) Condensed Milk	2 years	n.a.	1·07 : 1	19,893 : 1	1·15 : 1 ·21 : 1 (*b*)	n.a.	1·44 : 1
(16) Gal Oya Sugar	n.a.	n.a.	6·7 : 1 (*c*)	n.a.	4·3 : 1	n.a.	47 :1(*d*)
(17) Kantalai Sugar	n.a.	n.a.	10·15 : 1 (c)	71,429 : 1	7·2 : 1	n.a.	116·3 :1(*d*)
Public Sector	2–5 years	n.a.	7·50 :1	90,280 : 1	2·90 : 1	—	7·60 :1
Total Ind. Sector	—	—	2 : 1‡	22,125 : 1	2·06 : 1	—	2·19 :1

Note.—*The Table was computed partly from information available in answers to the questionnaire, partly from other information like project reports and wherever possible these were supplemented with information obtained orally or through interview with representatives of various corporations and basic data further checked with them.

† Throughout this Table output has been computed as the sum of salaries, wages and profits before tax. In the case of certain corporations adequate information was available in answers to the questionnaire to make a more accurate computation of value added. The present basis of calculation was adopted, however, in order to ensure consistency and the figures comparable as between all projects listed in the Table. The number of shift operations is not the same for all and had been determined for this Table on the basis of actuals and possible increases in the short-term period.

‡ Including Private sector and small-scale Industry (for basis of computation on these, vide relevant chapters).

|| Profit before tax.

(*a*) The original capital cost estimated at Rs. 80 million is not expected to be fully incurred. The above ratios have been computed on the basis of estimated capital cost of Rs. 60 million.

(*b*) If local Milk is substituted.

(*c*) Factory selling price of Rs. 600 per ton has been taken to be equal to Factory cost price

(*d*) On the assumption that Sugar Cane was available at Rs. 35 per ton.

The employment absorption ratios of the project in the public sector are again certainly low. This is partly inevitable in the case of large-scale industry but the figure of about Rs. 90,000 per worker is certainly high. This is primarily due to the heavy capital consuming projects in the list, such as Iron and Steel, Refinery, Fertilizer, Tyre and Tube, and Cement. Some others too like Kaolin, Paper and Textiles are also quite high consumers of capital with poor capacity for employment absorption. In the Industries Sector as a whole, the high ratios of these industries are offset by much lower ratios in the small scale industry. The inclusion of these would bring down the public sector ratio from Rs. 90,000 to Rs. 20,000 per worker. The ratio is still high as compared with the Plan expectation of 10,000 : 1. It is all the more important, therefore, that the projects, the large ones in particular, should be good candidates on the basis of other indicators.

A glance at the foreign exchange saving and the profit ratios also shows the relatively weak position of some of the industries. As already pointed out in an earlier chapter, foreign exchange savings are of crucial importance in the present state of our balance of payments. So are profits as the main source of long-term investment funds.

In regard to the exploitation of Foreign Aid, the ratios show wide divergence. This suggests that there is considerable room for improvement. Obtaining more aid is not only in the interest of the economy as a whole but would also help release local resources to other deserving sectors which have to rely on local funds.

The general impression that arises from a review of various projects, and indicators is that there is much scope for building up a better pattern of industrial investment than exists at present. It is not only that one or two industries should have been dropped and that others could have been helped to mature by timely action but that those industries, probably including some in the smallscale sector, which are selected for investment can be better programmed. It is not easy to arrive at decisions on these issues on the basis of data so far available, but it is clear that closer analysis on these lines is essential before final decisions are made.

Approaches along these lines have already been initiated and are expected to receive considerable emphasis during the period of the Short-Term Programme.

These ratios express the criteria that should decide the pattern of industrial investment. In fact, since resources are to be allocated not only between industries but also between sectors such criteria would be applicable for a comparison of claims as between, say, Fisheries and Iron and Steel for investment resources.

In order to prepare a sensible pattern of investment in the public sector, we should have, to start with, data on investment, foreign exchange saving, employment, output and profits of projects. We then utilise these data to estimate the different ratios, viz., capital/output, capital/labour, capital/foreign exchange and capital/profit. The ratios are the criteria which help us, in the light of the circumstances of the national economy, to determine the eligibility of each project for inclusion in the investment programme.

The different steps involved in this process should be the concern of different agencies. The criteria should be framed by the Department of National Planning and their relative importance decided in consultation with the Government. The Department should then request every Ministry which is responsible for projects to obtain the basic information from the project management, and to prepare the various ratios mentioned. The Ministry (preferably some department of Ministry specifically responsible for this job) would then scrutinise the data. and make them as well as the ratios calculated by it available to the Planning Department. The Ministry should also enclose a note containing any recommendations that it may have to make for deviation from the listed criteria for reasons of policy. The Planning Department will use the ratios to calculate the total investment required for the public sector as well as its pattern.

Evidently, each step outlined above must be carried out efficiently and in time, if we are to build up the optimum pattern. If this is not done, we shall have over again the chain of experiences that we had in the past, namely, delays in the preparation of programmes, maldistribution of investment between projects and programmes, too high capital output ratios, less than possible rates of return from investments, &c.

Normally, the management of a project does not concern itself with its relative significance in the overall investment programme of the economy. It may not, therefore, be fully conscious of the importance of the data or of the ratios desired. These are the concern of the Department of National Planning and the Ministry responsible for the project. But these agencies can only discharge their obligations properly if the selection of projects is based on criteria and overall economic needs. Perhaps, more conscious effort than in the past is necessary on the part of project managements to ensure best results. There is no doubt that such effort would yield more than proportionate returns in the form of an improved programme of national investment, higher rate of return and extended opportunity for employment.

The first requirement for the building up of such a pattern is adequate knowledge of resources available to the economy and of the technique of utilising them. Obviously no efficient pattern of investment can be prepared on the basis of superficial knowledge of the country's natural resources. It is known that the geological survey, for example, covers only a fraction of the country. The general survey should be extended; at the same time special attention should be given to specific areas depending on expected economic requirements, such as for the Cement programme or the Oil programme. Import substitution also requires extensive study of the availability of different raw materials and their potential use.

Intimately linked to this form of Survey and Research is the economic application of their results. The feasibility studies made in all these three aspects would thus cover the scientific aspects of use of raw material, and their economic prospects. They would be comprehensive also in the sense that the study of a particular material would not be in isolation. For example, not only would the various materials for producing an item be studied and compared, but the various items that could be made from a given material—such as rubber wood for hardboard and pulp, bagasse for paper and hardboard, molasses for rum and power alcohol—would also receive proper study. In this way the selection of an optimum production pattern by timely availability of technical possibilities, market prospects and competing demands as well as sources of supply for items, would be made possible.

If programming in future is to result in an improved investment pattern, it is necessary—

(i) to undertake stricter application of economic criteria;

(ii) to provide for considerable stepping up of resource surveys;

(iii) to undertake applied research on the utilisation of raw materials and economic study of their commercial potential.

In the absence of these pre-requisites, the selection of projects will only be ad hoc and we shall fail to achieve the optimum pattern of investment.

III—Realisation of Investment

Once a series of projects involving specific investments has been selected, the implementation of the investment programme becomes paramount. As has already been shown, actual investment has fallen below Plan expectations in many instances. The reasons advanced for the shortfalls are various, viz., unexpected delay in selecting a consultant in construction, in getting the necessary raw materials from other industries. The tacit assumption has been that all these delays are special and unforeseen. In truth, however, they are ubiquitous and recurrent and represent defects of industrial organisation and administration.

The deeper reasons for the deficiency are—

(i) Lack of managerial capacity.

(ii) Basing of proposals on inadequate data, appraisal of costs, market availability, etc. ;

(iii) Lack of co-ordination between agencies responsible for the operation of a project or of complementary programmes, e.g., the cement and port programmes, sugar cane production and the sugar factory programme ;

(iv) Inadequate machinery for programming and supervision ;

(v) Lack of sufficient clarity as to the responsibilities of management and the proper relation between management and Government ;

(vi) Inadequate use of the opportunity for foreign aid ; and the absence, relatively speaking, of a rationalised tariff and fiscal structure orientated towards investment and development.

The administrative machinery suggested in an earlier chapter for supervision of implementation is designed to meet the second problem. Its functions would be to ensure co-ordination at the most effective levels of all measures including supply of constructional materials and training of personnel that are essential to the timely inauguration and completion of projects.

A systematised approach to project appraisal is fundamental not only to their proper selection, but also to avoiding undue delays. The appraisal should cover the following aspects of each project:—

(*a*) technical ;

(*b*) financial ; and

(*c*) economic.

Technical appraisal would cover the efficiency of the plant and machinery in terms of physical output and the quality of the product, its durability, the availability of repair and replacement services, etc. Financial assessment would include a comprehensive analysis of the investment required, its foreign exchange content, the expected rate of net return, etc. Finally, the economic evaluation of the project should indicate its importance in a Programme of investment in terms of its contribution to national income and employment initially as well as in the long run.

In the case, particularly, of large projects knowledge about which is likely to be inadequate, independent appraisal should be undertaken by foreign experts. But the project report prepared by them should be carefully studied before investment decision is made.

This approach has been increasingly adopted of late and it is expected that most of the delays and mistakes of the past would be avoided in the future.

IV—Realisation of Output

The purpose of investment is production. To the extent that existing capacity is under-utilized, this purpose remains unfulfilled. Under-utilization of capacity exists in important areas of our public sector industry. The reasons for this may be managerial and labour inefficiency, inability to dispose of capacity output profitably or lack of raw materials and intermediate goods, e.g., gross shortage of sugar cane, hindering the sugar industry from producing capacity output. In the case of some other industries like Textiles, this shortcoming has been met by the import of raw materials. But this is not a fully satisfactory answer to the problem as we do not have the full benefit of import substitution. The prime need in these cases is to step up the investment and increase the production of the domestic raw materials. There is also under-utilization in an indirect sense when facilities for the production of by-products or complementary goods and services are inadequately exploited. For example, facilities for the production of bagasse and molasses from sugar may be inadequately utilised, or steps may not be taken to establish industries producing complementary goods and services, e.g., paper for cement bags, carbon black for tyre and tube factory, etc.

It is not enough to be aware that these demands for various goods and services are often inter-linked. It is necessary to recognize them suitably to gear the scale and timing of the production programmes of related industries to one another. Management should actively seek and exploit these potentialities if a given volume of industrial investment is to make its full contribution to development.

Good management is of course vital to efficient running and rapid growth of industry. Profits, which are basic to re-investment and future growth, have to be maximised between the upper and lower limits set by the prices for finished products and the costs of production respectively. These limits have been affected by price and wage regulations, taxation, tariff policy, marketing facilities and costs of power, transport, communications, &c. The manager can, of course, be held to account only for those factors which he can control, although he can, in some measure, influence policy decisions on wages and tax, and other matters by a cogent, properly worked out presentation of the problems of his enterprise.

Within this context, the following may be considered as the basic criteria for measuring the efficiency of an enterprise:

(*a*) improving the quality of production.

(*b*) stepping up returns ;

~~(*c*) improving the quality of production~~ ;

(*d*) fulfilling the set targets—as the contribution to the economic development of the nation.

As the fulfilment of these criteria depends on a variety of measures as well, reports of management performance should refer to other special indicators, too, such as equipment maintenance, personnel training and improvement of quality; government measures that may reduce or enhance profits, &c.

But while the manager of a Corporation in the public sector must not be a "civil servant", he cannot be only an entrepreneur in the private enterprise sense. While aware of the importance of earning reasonable profits, he should understand the social and national significance of his enterprise. The manager of a public Corporation has to be a new type of individual and has therefore to be trained in a mould that was not available historically. The opportunity for such training in existing industries in the public sector should help us to enlarge the numbers of the sew type of managers we would need in the future.

It has been said that the problem of supply of managerial talent is less important than the conditions under which management works. The nature and degree of governmental control over corporate enterprise are important factors affecting these conditions and need careful consideration. The aspects of this problem may be itemised under (i) matters in respect of which Parliament should expect explanations from management; (ii) the degree of detail to be covered by the explanation; (iii) the organisation which Parliament should have for reviewing the working of public corporations, in the full house or in a special committee; (iv) the degree of latitude allowed to the management in respect of decisions on executive matters; (v) the meaning of "right" and "wrong" as applied to industrial in contrast to departmental decision-making.

In exercising control over public corporations, Parliament may, perhaps, easily cross the proper limits. This has been the experience in India. To quote: "Unlike in the U. K. where some limit to Parliamentary control of Public Corporations has been self-imposed by Parliament, here (in India) legislatures seem to insist on full accountability to the legislature including the right to investigate and discuss various details about management. This degree of parliamentary control and the necessity arising therefrom of the minister having to answer various questions even relating to detailed operations means that the minister and therefore the secretariat does not like to delegate too much power in practice (if not in theory) to the managing director and the managing director does not like similarly to delegate too much power to his subordinates. The resulting centralisation is known to reduce initiative at various levels and to delay important decisions."[1].

"Parliamentarians must have clearly in mind that when they question individual decisions of companies they force Ministers to protect themselves by asking for advance knowledge and approval of all decisions. This destroys the autonomy and hence the effectiveness of the public enterprise. And again, it must be stressed, the public enterprise must be free even to make mistakes for these are inevitable in efficiently rapid decision making. "[1]

---

[1] **"Industrial Enterprise in the Public Sector in India", 11 prepared by the Indian Institute of Public Administration.**

On the meaning of " right " and " wrong " industrial decisions, to quote Prof. Galbraith again: " Civil Service decision making is inevitably and properly slow and deliberate and demanding in quality. Operating decisions must be prompt and they need not always be right for most such decisions are reversible. So ministries have as their principal function selection of good managers supported by competent (though not powerful) boards and the provision of firm but workable rules by which the public enterprises shall live (covering in particular, recruitment and labour relations, accounting and financial procedures and procurement policies). While the rules should effectively exclude dishonesty and favouritism, it should be remembered that excessive precautions can be very costly. Rules should be enforced not by advance clearances but by post-audit. Beyond this, ministries must hold the companies responsible for results. To this end officials should never be members of the Boards. If they are, the autonomy of the enterprise will almost certainly be lost as the Board becomes a link in the civil service hierarchy."[1]

In regard to the machinery for reviewing the working of public corporations, the Government has accepted the idea of setting up of a Special Committee of Parliament. The Special Committee would impart more drive to Corporations while protecting them against ill-founded criticism.

An ECAFE Seminar on Management conducted in 1960 discussed the establishment of "specific Parliamentary Commissions of Investigation to keep the enterprise under review ". It emphasised also the usefulness of periodical meetings between members of Parliament and enterprise managers of public corporations to keep the former better informed and thereby help restrain them from intervention in Parliament in the day-to-day working of the enterprises.

Joint enterprise and management contracts also must be considered with a view to strengthening managerial cadres in the country, raising managerial capacity and assisting in the successful operation of state projects.

A fairly recent decision of the Government to place groups of industries under common Boards would help ensure more effective utilisation of limited supply of management personnel and of dissemination of managerial experience gained to new enterprises.

---

[1] Galbraith, quoted in Eastern Economist, Dec., 28, 1960, p. 1205.

If these conditions are fulfilled, the "instinct for workmanship" and "sense of achievement" are likely to raise industrial performance to desired levels.. Questions have been raised regarding financial incentives as well. For example, it has been suggested that we should have a system of ordinary levels of basic pay, supplemented by profit sharing or grants of bonuses out of profits. Such a system may mean inividious discrimination against the management of enterprises which are set up by the Government to meet the planned requirements of the economy. The enterprise may fail to make adequate profits for reasons beyond its control. And it may not be feasible to allow for these in assessing the efficiency of the management. In such instances, other tests should be applied, for one should not overlook the natural expectation of reward for better achievement. The question should be studied by a competent body.

Two other factors which relate to output and profitability may also be briefly discussed. One is the problem raised by the capital structure of enterprises in the public sector. Reference has already been made, in another connection, to the foreign aid component of investment. Mention may here be made of the present policy in regard to capital structure as a whole. In the early stage of development funds for investment in fixed capital tended to be provided in some cases by way of loans. This placed the public enterprises in an unfavourable position vis-a-vis enterprises which rely largely on share capital; the former is saddled with fixed interest and amortisation charges which it must meet from year to year whether it makes profit or not while the latter pays dividends only as and when it can. As a result, a public sector firm arrives at a profit-making position much later than its counterpart in the private sector. This requires that in assessing profitability and managerial record, the additional call on gross income for capital repayments has to be discounted. In this connection a quotation may be made on roughly parallel ground from Indian experience: "This insistence on the grant of large amounts of capital requirements in the form of loans rather than share capital means that in its earlier stages a concern has to bear a heavy burden of interest and that makes its financial position difficult. Loans granted by Government sometimes form quite a high percentage of the total capital invested in the concern. It is as high as 15 per cent. or 20 per cent. in many cases and sometimes as in the case of Hindustan Machine Tools, it may be even higher. The heavy interest burden in the construction and early operational stage may not permanenlty affect the financial position of a concern adversely as usually a substantial part of the expenditure incurred during the construction and developmental stage is not capitalised but written off when the concern begins to make profits. But still the fact that the concern, because of this necessity to write off large amounts, cannot pay any dividends to Government, is taken as an indication of inefficiency by the Public as compared to Private concerns which obtain their initial capital largely as share capital and therefore are under no obligation to pay interest on this in their development stage and, therefore, when they begin to make a profit they can show that they are paying handsome dividends. Moreover, if a substantial part of the working capital has to be obtained by way of loans that does affect the financial results of an enterprise adversely."

The current policy of Government for public sector industry is to distinguish clearly between fixed capital and working capital and generally to provide the former on a grant basis, i.e., on a basis that corresponds to share holding in the private sector. The obligation of the Corporation to Government would, therefore, be in respect of profits alone plus of course amortization and interest on working capital.

Another aspect of the capital structure of public corporations is the additional investment that may result from Government decisions to site factories at certain places or delays by the Government in placing orders. Such additions to capital cost would certainly weigh down the rates of return from the affected industries and would retard the building up of reinvestment surpluses by them. Some writing off of capital would be necessary to give a true reflection of the firm's standing in such instances. Writing off of portions of capital is an accepted form of procedure. It is necessary to do so in all justifiable cases and to do it in time.

The other factor referred to earlier for brief discussion is the tariff protection given to industry. This influences all new invesments including those in the public sector. In the context of a developing economy there are also continuing problems in respect of duties on inputs whether they are fuel, power, raw material, or transport and the finished product. It is necessary to rationalise these duties and stabiliise them in the interest of nascent industries. The rationalisation should take into account not only the economics of an industry, but also broad factors like policy decisions on such matters as price ceilings. Some elements of the institutional machinery for this purpose already exist. They are under review by the Government.

V—Specific Problems reported by Industries from their Experience as Investors and Producers

It would be interesting before closing this Chapter to say something about the problems which came up in the course of the examination of the investment proposals of the various industries and enterprises.

As already indicated, the output of the various corporations has depended on a number of factors some of which are intimately related to their operation. Although the problems assume specific forms in the case of each industry they have some degree of generality. They may be broadly grouped under four heads, viz., investment, labour, operational and general problems.

In respect of the first category the chief problem that has come up is the delay in the maturing of investments. This has been due to a variety of reasons. For one thing there have been procedural delays as in the case of foreign and negotiations on Cement or the appraisal of Silicate Bricks, Builders' Hardware, and the Flour Mill. The progress of the last three projects was affected by the fact that some of the implications that the initial appraisal brought out had not been cleared up beforehand. Sometimes the delay has been due to lack of co-ordination with development in related projects such as that of the cement programme with Kankesanthurai harbour development. In this connection, it is noted that the second cement factory at Puttalam is vitally dependent for its functioning on the co-ordinated development of the Railway and Power Programmes. Delays in procedure have also resulted, in some cases, in inadequate use of foreign aid. Cement has again suffered from this cause. Another reason for delay has arisen from the difficulty of making comparative cost estimates of projects tied to foreign aid under Aid Agreements. Generally speaking projects in the Programme coming under this category have experienced this difficulty. Some delays, as in the Rubber Hardboard project have occurred due to insufficient prior study of substitutes, both for raw materials and the finished products. This problem may occur in the Paper expansion programme in the future as well in view of the substitute possibilities of bagasse. A similar situation may arise from possible competition of plastic ware and ceramics. There have also been delays on account of the inadequate market studies being undertaken.

Labour issues have also contributed their share towards delays in maximising output and profits on these undertakings. Absenteeism has been reported as a problem, for instance, in Textiles and in the Paper Mills. Absenteeism makes it necessary for an industry to have, at its service, a larger labour force than is actually necessary and also hinders increasing the number of shifts. The Paper Mill has overcome this problem to a large extent by adjusting the grant of leave to the technological requirements of the factory operation. Since it is necessary to operate the fatory continuously for some length of time at a streth instead of in fits and starts, workers have been prevailed upon not to take leave spasmodically. In return, they are allowed to take full leave during the periods when the factory is closed. This has been found to be economical. There is also, in some cases, shortage of personnel of various types and grades that are required. This problem has to be solved by skilful arrangement of working operations. The Textiles Mill, for instance, has handled this by systematically combining skilled hands, in given ratios, with apprentices and unskilled labour. Another problem relates to the work load assigned to apprentices at the learning stage. It is expected that the work load should increase but there has been a tendency to take the original work load as the norm. There is also the problem of Corporations losing skilled labour to the private sector. Two interesting experiments which may contribute to increased productivity in corporations may be mentioned here. One is a system of standing orders which have been agreed with the employees, affecting work load and other related matters. According to this, any breach of the standing orders carries an automatic penalty by way of desciplinary action without its being questioned. The second is a system of job evaluation of the various types of labour. This has been necessitated by certain categories of skilled workers coming into service on their original rates of pay but later taking on factory work of a more technical nature. The job evaluation is reported to be a success. A further point noticed has been that workers make demands for holidays on short notice ; they also want holidays to be declared when an adjacent Corporation has holidays. This is a problem to be considered for factories in which technological operations cannot be interrupted without serious loss.

Operational problems form the third group. Cost of production and net profits depend, among other things, on cost of input and provision for depreciation, &c. In some cases, depreciation charges appear to be worked out on the asumption of much shorter life than that of the machines. Perhaps there is room for examination in cases of this nature. Transport charges are again an element of cost. Rail freight is considerably higher than road haulage. In the case of Paper it amounts to about Rs. 65 to Rs. 70 on transport and baling. The cost by road is on average Rs. 32.50 for raw materials and Rs. 17.50 for the finished product. Damage is also reported to be less by road transport. Other industries such as cement that have to use rail transport have the same problems. The purchase of raw materials from countries having bilateral trade agreements with Ceylon also involves at times higher prices than would otherwise have to be paid. Although no major instance of this difficulty has been reported, the fear has been expressed and the issue would to be borne in mind while entering into trade agreements. Examination of the textiles tariff indicates that duty on imports of cotton from the Commonwealth countries is 5 per cent. as against 10 per cent. from other sources. The inadequacy of tariff protection has also been raised.

Indenting procedures for spare parts the need for which cannot always be justified in advance has also been raised as a serious handicap for production programmes. Delays in obtaining equipment seem to be the chief difficulty.

Another significant problem has been the voltage fluctuations of Power supplied to indusries. Plant and machinery are designed to take in variations in voltage only within limits, but the present fluctuations have been stated to exceed these limits quite frequently. Ceramics and textiles are two instances. This problem should be overcome speedily. Remedial action is being pursued by the appropriate Department.

The supply of the finished product to the market is another problem that has been raised. In the case of Chlorine supplied to the Paper Mills, the price is much higher than in the free market. This is not a matter that admits of an easy solution but similar instances that may arise in other areas would deserve prior study.

There is another type of supply price which is also important and is illustrated by Cement. Cement is crucial to the entire Construction Sector and cheapening cement costs will bring down the cost of the rapidly expanding constructional programme. A final factor in output performance may be mentioned. This is the inadequate knowledge of the market in some cases. The inability to undertake market research and the consequent surplus of certain items has been reported by some, for instance by the Ceramics Corporation, who are very alive to this problem. Closely allied to this is the need for Corporations to be keenly conscious of their obligations as sellers. This involves coupling of sales contact and organisation with market research and production programmes. This co-ordination is also required in industries like Paper and Chemicals.

The final group of problems comprises certain general issues. It has been observed in some cases that a factory has or proposes to have equipment from different countries or sources. This lack of standardisation in equipment may lead to over-investment in spares and inability to interchange spares and, thereby reduce periods of shut-down. It is difficult to state an opinion categorically on this issue but certainly it deserves examination every time a new source of supply for equipment is proposed for a factory.

This review, though brief, of some of the real problems of industries demonstrates their great importance for production and development. They need the fullest attention that can be given.

Once these teething problems are solved, the industries may not, in most cases, need tariff protection.

VI—Summary

To summarise the main conclusions of the foregoing analysis :—

(1) Policy should be increasingly directed towards ensuring that the decision on total investment is not made on the basis of *ad hoc* assembly of projects but taking into account possibilities and desirabilities. This will be done—

(*a*) by setting up machinery for resource surveys, scientific and technical research on raw materials and study of their economic use ;

(*b*) by setting up of a Council or Body to draw attention to problems of applied scientific research, on the basis of surveys and knowledge of by-product availabilities.

(2) The appropriate departmental organisation should be strengthened to provide for project planning and appraisal, as well as for the planning of construction and other measures for the realisation of planned investment.

(3) Output performance should be stepped up by better managerial organisation (including labour training, job evaluation and marketing) ; by closer co-ordination with other sectors ; and by exploiting by-products and the advantages of co-ordinated development of complementary industries.

(4) Some of the agricultural programmes which are crucial to the development of industries should be stepped up. The programmes should include cane, cotton, fruits, livestock, &c.

(5) The capital structure of public corporations should be placed on an equitable footing in relation to that of commercial enterprises.

(6) The input and selling costs of industry should be further rationalised.

(7) The cost of Power to industry should be further reviewed in view of its overall effect on the industrial development and where possible reduced.

(8) A similar analysis should be done of the cost of transport of both intermediate and final products.

(9) Industrial training at the school level and on the job should be progressively stepped up.

Summary statements of the investment programme in the Planned sector are given in the ensuing pages.

VII—The Industry Programmes

1. Ceylon Hardboard Corporation

A project for the manufacture of 25 million sq. ft. of hardboard, using rubber-wood as raw material, is at present being examined. The estimated cost of the project is Rs. 7 million and the expected employment is 197 persons.

2. Industrial Estates Corporation

Construction is in progress on the project at Ja-ela designed to provide basic utilities for medium-scale industrial ventures. Stage I of the project, which provides for 20 industrial units, will be completed by September, 1962. Stage II of the project, yet to be undertaken, envisages the provision of an additional 80 industrial units. The estimated cost of the project is Rs. 80 million.

3. National Small Industries Corporation

The Corporation has the following projects in hand:—

(1) construction of an Ayurvedic drug processing factory at an estimated cost of Rs. 1 million to manufacture roughly Rs. 1 million worth of drugs per annum;

(2) mechanization of the carpentry workshop at Moratuwa at an estimated cost of Rs. 0.9 million; and

(3) construction of 5 tile factories at an estimated cost of Rs. 10.2 million with an overall capacity of 6.8 million tiles per annum.

The possible construction of five additional tile factories, estimated to cost Rs. 11.0 million, is also being examined.

Present annual consumption of tiles in Ceylon is estimated at 58 million, and it is expected to rise up to 65 million by 1964. The country produces only about 32 million. With the 5 proposed Corporations' factories producing only 6.8 million tiles per annum, private sector production will have to be significantly increased if Ceylon is to be independent of foreign supplies.

4. Ceylon Steel Corporation

The Corporation proposes to set up a factory capable of producing 35,000 tons of rolled steel and wire products per annum. The factory will be established on a contract under the Ceylon-U. S. S. R. agreement. The estimated cost is Rs. 80 million. Investment during the Three-Year Implementation Programme will be as follows :—

(Rs. Million)

	1961/62	1962/63	1963/64
Local Costs	3·0	15·0	17·0
Foreign Costs	0·4	15·0	15·0

It is expected that the factory will be ready for production in 1965 when it will provide employment for approximately 400 persons.

5. Ceylon Cement Corporation

The Ceylon Cement Corporation has a threefold development programme involving—

(*a*) an expansion of the KKS cement works to increase output from its present level of 82,000 tons to 175,000 tons ;

(*b*) the establishment of a clinker grinding plant at Galle capable of producing 100,000 tons of cement from clinker brought from KKS ; and

(*c*) the establishment of another cement factory at Puttalam with a capacity output of 200,000 tons.

The total costs of the respective projects are estimated to be Rs. 45.0 million, Rs. 15.6 million and Rs. 52.5 million.

While work has already commenced on the KKS Expansion Scheme and the clinker grinding plant at Galle, the construction of the Puttalam factory will fall outside the Three-Year Implementation Programme. The phasing of investment during the Three-Year Programme is as follows :—

(Rs. million)

	1961/62	*1962/63*	*1963/64*
KKS Expansion—Local costs	6·2	8·6	8·3
Foreing costs	7·0	6·3	6·6
Galle Plant—Local costs	2·4	3·9	2·8
Foreign costs	1·1	2·7	2·6
Puttalam factory—Local costs	0·1	—	—
Foreign costs	—	—	—

The KKS and Galle projects are to a great extent dependent (*a*) on the provision of docking facilities at KKS and Galle to enable the coastwise shipment of surplus clinker from KKS to Galle, and (*b*) on the expansion of the thermal power station at Chunnakam to meet the increased demand for power from the expanded KKS works. The Puttalam project will depend on the the completion of the railway development programme from Bangadeniya to Puttalam and on the extension of high-tension power lines to Puttalam. At present work is in progress on harbour construction at Galle while preliminary work has commenced at KKS.

The anticipated employment when the three projects are in full operation will be 900 persons at KKS, 80 at Galle, and 600 at Puttalam. As imported materials form only a small proportion of the total costs of cement production, a considerable saving of foreign exchange should be realised when current imports, which are at present running at over 200,000 tons per annum, are displaced by local production. The present consumption of cement in Ceylon is about 282,000 tons and local production some 82,000 tons, leaving shortfall of 200,000 tons to be met out of imports. Consumption trends indicate that by 1963-64 about 319,000 tons will be required. The expansion scheme at KKS when completed and the clinker plant at Galle are together expected to produce 275,000 tons by that date, leaving the balance to be imported until proposed plant at Puttalam is completed.

The foreign aid expected from West Germany for the expansion scheme at KKS and the clinker grinding plant at Galle totals Rs. 37 million. While Rs. 21.3 million of this will be utilized to meet foreign costs, the balance will be available to finance local expenditures connected with the projects.

6. National Textiles Corporation

Production commenced in April, 1961, at the Veyangoda Mills of the Corporation with the commissioning of the first spinning mill. A second spinning mill is expected to be completed by December, 1962, and a weaving and finishing mill by March, 1964. Meanwhile, the Corporation is going ahead with its plan for the establishment of a spinning and weaving and finishing mill at Pugoda.

The Veyangoda Mill have been designed to turn out at capacity, 10 million yards of woven fabric and 24 million yards of finished fabrics per annum. On completion, the Pugoda Mills will turn out the same quantity of woven fabric as the Veyangoda Mills. The estimated capital costs of the Veyangoda and Pugoda projects are Rs. 41.1 million and Rs. 49.2 million respectively.

It is expected that the single spinning mill now in operation at Veyangoda will produce 1.1 million pounds of cotton yarn valued at Rs. 4.0 million this year. This is an amount in excess of the original rated performance. The operational work force at Veyangoda is at present about 250 persons, but this number will increase steadily to 700 persons by 1963-64. The investment programme at the Veyangoda Mills is as follows :—

(*Rs. million*)

	1961/62	1962/63	1963/64
Local and Foreign costs	6·0	11·6	2·5

As regards the possible saving of foreign exchange, it may be remarked that the full possibilities of import substitution will not be realized unless the local production of cotton is stepped up. At present local output is negligible and is confined to chena cultivation, and local cotton supplies meet the requirements of only 14 days operation of the Veyangoda Mills on a two shift basis.

Our requirements of cotton goods were 150 million yards in 1959 and 170 million yards in 1961. As against this, the local production in 1959 is estimated at 22 million yards, consisting of 13 million yards from handlooms, 1 million yards from powerlooms and 8 million yards from the Wellawatta Spinning and Weaving Mills. Production trends show that 48 million yards will be available by 1963-64, distributed as follows : 13 million yards of handloom, 8 million yards of powerloom, 15 million yards from the Wellawatte Spinning and Weaving Mills and 12 million yards from the National Textile Corporation. In addition to this the National Textile Corporation is expected to produce 3 million pounds of cotton yarn.

7. The Ceylon Ceramics Corporation

The Ceylon Ceramics Corporation is now completing an extension programme, costing Rs. 2.0 million in all, at its Negombo factory. It is expected that with the completion of the programme, output will increase from the present level of 480 tons to 900 tons, and employment from 140 persons to 206.

The Corporation proposes to build a second ceramics factory at Boralesgamuwa at an estimated cost of Rs. 9.3 million. This will have a capacity output of 2,400 tons and provide direct employment to 365 persons. It is expected that this project will be completed in December, 1964.

The Kaolin Refinery, designed to turn out 5,500 tons of Kaolin per annum, is making good progress and should be ready for commercial production in early 1963. This refinery will supply Kaolin not only for the production of ceramics, but also for that of paper, tyres and tubes and insecticides. Moreover, at capacity output nearly half the total supply will be available for export. As the commodity is in short supply in world markets, and as Ceylon Kaolin is expected to be of high quality, there should be no difficulty in finding export outlets.

The short-term investment programme of the Corporation is as follows :—

(*Rs. Million*)

	1961/62	1962/63	1963/64
Negombo Factory expansion :			
Local costs	0·3	—	—
Foreign costs	—	—	—
Boralesgamuwa Factory			
Local costs	—	2·2	1·0
Foreign costs	—	1·3	2·6
Kaolin Refinery :			
Local costs	1·0	—	—
Foreign costs	—	—	—

It is expected that when the Negombo and Boralesgamuwa projects are complete, a foreign exchange saving of Rs. 2 million per annum will be realized.

Consumption of ceramic ware in 1960 is estimated to have been 2,033 tons while production in 1961 was only 480 tons. By 1964 our requirements are expected to rise to some 2,400 tons while production trends indicate that about 440 tons in excess of this will be available. The need for immediate action to study market possibilities in neighbouring countries is clearly indicated.

8. Leather Products Corporation

The new Shoe Factory, put up at a total cost of Rs. 4 million, is expected to commence production shortly. By 1963-64 it will produce 400,000 pairs of shoes and provide employment for 325 persons. The phasing of the investment programme is as follows :—

(*Rs. Million*)

	1961/62	1962/63	1963/64
Local costs	1·7	—	—
Foreign costs	0·5	0·2	0·1

A foreign exchange saving of Rs. 4.7 million is expected by 1964.

Whereas our requirements of shoes in 1959 were 450,000 pairs, the country's production was no more than a ninth of this figure. By 1963-64 however, Ceylon should be on the way to complete self-sufficiency in this regard.

9. Eastern Paper Mills Corporation

The Corporation has undertaken a project—

(a) to increase the production of writing and printing paper from its present level of 4,500 tons to 9,000 tons ; and

(b) to manufacture 9,000 tons of paper board products by integrating paper and board making operations into a single manufacturing unit.

The total cost of the project is Rs. 24.3 million. The phasing of investment during the period of the Three-Year Implementation Programme will be as follows :—

(*Rs. Million*)

	1961/62	1962/63	1963/64
Local costs	0·6	0·1	1·9
Foreign costs	0·8	2·0	0·1

When the project is completed, employment will rise from the present level of 433 persons to 583 persons and the total saving of foreign exchange from Rs. 3.2 million to about Rs. 7.2 million.

At present the Corporation is selling printing and writing paper at Rs. 1,750 per ton. This compares favourably with the c.i.f. price of paper from Europe which is about Rs. 1,950 per ton, but it is higher than the c.i.f. price of Japanese paper which is about Rs. 1,300 per ton only. The Corporation expects, however, to be in a position to reduce its selling price as output expands and costs fall.

Ceylon's paper requirements have been far in excess of the output of the Corporation's Mills. Thus in 1959 and 1960 13,452 tons and 16,025 tons respectively were imported. During the same period 4,187 tons and 4,565 tons respectively were produced by the Corporation. Until the complete ban by Government on imports of varieties of paper produced by the Corporation, a major obstacle facing the Corporation was the piling up of stocks. The expansion scheme now under way will provide 9,000 tons of our requirements by 1964.

10. Fertilizer Project

The establishment of a fertilizer factory, capable of producing 300,000 tons of ammonium sulphate, as well as other grades of fertilizer (such as urea), is at present under consideration. It is estimated that a factory, based on the use of heavy fuel oil and/or refinery gas as the major raw material, and capable of producing these requirements, would cost Rs. 137 million. When in production, a foreign exchange saving is anticipated of the order of Rs. 55 million.

11. Ceylon Tyre Corporation

It is proposed to build a Tyre and Tube Factory on a contract under the Ceylon-U. S. S. R. agreement with an initial capacity of 162,500 passenger-car tyres and 87,500 truck tyres. It is envisaged that the factory will be completed by April, 1965, and that the cost will be Rs. 51.8 million. Phasing of investment during the Three-Year Implementation Programme will be as follows :—

(*Rs. Million*)

	1961/62	1962/63	1963/64
Local costs	4·55	8·65	9·1
Foreign costs	0·7	14·3	13·6

The factory will provide employment for about 550 persons. As the principal raw material rubber is available locally, a considerable saving of foreign exchange will be realized when production gets under way.

12. Flour Mill

A project is being examined for the construction of a flour mill with a production capacity of about 50,000 tons of flour per annum, representing about 25 per cent of Ceylon's present annual consumption requirements. As a by-product of the flour mill, there would be 16,000 tons of wheat bran which could be utilized in the manufacture of cattle fodder. The estimated cost of the project is Rs. 18.3 million of which a sum of Rs. 10 million will be provided by the U. S. S. R. under her aid agreement with this country.

13. Petroleum Refinery

Negotiations are in progress with a view to establishing a petroleum refinery based on imported crude oil, with a capacity of 1½ million tons of crude oil per annum. The refinery will be designed to produce a variety of petroleum products for internal consumption as well as for bunkering.

The provisional estimate of capital cost of the project is Rs. 150 million. The final cost would however depend on ultimate decisions regarding the technical requirements of the project. It is estimated that the value of output when the refinery is in full production will be Rs. 157 million, while estimated annual savings of foreign exchange will be Rs. 63 million. The estimated employment potential is 500 persons.

14. Engineering Corporation

This Corporation, with an initial capital of Rs. 1.0 million, has been set up for the purpose of undertaking civil engineering work in respect of the development of public sector industry. At present, in addition to providing civil engineering assistance for the Ceylon Steel Corporation and the Ceylon Tyre Corporation, it is also undertaking consultation work for other Corporations.

15. Salt Works

Capital Expenditure (Estimates) :

(Rs. Million)

1961–62	*1962–63*	*1963–64*
0·679	0·615	0·299

Additions and improvements are to be made to the salterns at Elephant Pass, Chiviyateru, Irupalai, Palavi, Mannar and Puttalam with a view to increasing production by about 12,000 tons. A scheme to increase production at Elephant Pass saltern by another 20,000 tons is under investigation.

(Tons)

		1956	*1957*	*1958*	*1959*	*1960*	*1961*
Consumption	..	52,062	55,041	60,563	59,087	64,282	68,364
Production	..	100,799	64,385	16,755	32,079	55,557	34,348

Recent shortfalls have been due to heavy rain during harvesting seasons. There is apparently a 15-year cycle in rainfall which adversely affects production and hence the need to have physical capacity somewhat in excess of effective need.

The Salt Corporation which falls outside the scheme of work of this Department has not so far been successful in providing supplies on a commercial scale.

16. Mineralogy

MINERAL EXPLORATION PROJECT

Capital equipment is to be purchased for the expansion of the above project. The expansion of the Project will enable the department to expedite the surveys for the appraisal of the Island's mineral resources, and also extend these surveys to new areas, which have not been covered.

Provision has also been made for a spectrographic laboratory, which is urgently required to handle the analysis of rocks, minerals and ores becoming known as a result of the expanded programme of mineral exploration.

Capital Expenditure :

(Rupees)

1961-62	1962-63	1963-64
450,000	150,000	—

17. Arrack Distillery

PRODUCTION

The manufacture of arrack is carried out by 8 Private distilleries, one Co-operative and one State Distillery. The Private Distilleries play an important role in production. They are responsible for nearly 75 per cent. of the total quantity produced.

NEW FEATURES

The department proposes to install two modern automatic bottling plants which would ease the problem of bottling. A scheme to train tappers locally and to assist in the replacement of non-nationals is being worked out to avoid what would otherwise be a sharp production drop in the near future.

Capital Expenditure (Estimated) :

(Rupees)

1961-62	1962-63	1963-64
333,000	351,000	233,000

Net Revenue :

1960-61 (*Actual*)	1961-62 (*Est*)	1962-63 (*Est*)
Rs. 70,320,175	78,500,000	88,750,000

18. Gal Oya Sugar Factory

The Gal Oya Sugar Factory was completed in June, 1960. The total estimated capital cost is Rs. 33,800,000. At capacity the factory is expected to crush 300,000 tons of sugar cane and produce 30,000 tons of white sugar. The factory had two crushing seasons ; but in both seasons it worked well below capacity because sugar supplied from the plantations was well below requirement. As in Kantalai, the principal bottleneck has been the failure of the plantation to keep to its targets.

Power Alcohol Distillery

Work on the Alcohol Distillery was completed in 1961 and production commenced in October, 1962. At capacity it will produce 50,000 proof gallons of pure alcohol and 10,000 of impure alcohol. It is expected to give regular employment to 75 workers.

The consumption and production figures in regard to sugar are set down in the Kantalai Sugar Programme below.

19. Kantalai Sugar Corporation

The Sugar Factory, completed in 1960 at a total cost of Rs. 25 million, is now in operation ; but, owing to the limited supplies of raw sugar cane, its present output is far short of its capacity, which is estimated at 14,400 tons. At present the operational work force is 161 persons. This figure will increase to 350 persons when capacity output is reached. It is estimated that at capacity output there will be a foreign exchange saving of Rs. 3.4 million a year.

At present the cost of production at the factory is uneconomically high due to operation well below capacity. A significant reduction of costs will be possible only when much larger supplies of sugar cane become available. The rapidity with which local supplies can be increased will depend on the pace of development of the sugar plantations and on the solution of certain man-power and organisational problems relating to sugar harvesting, etc. It would appear that the factory is considerably over-capitalised, especially in comparison with the Gal Oya project which too has a considerable buildings component in its capital cost.

The Corporation has also just completed the construction of an alcohol distillery at a cost of Rs. 3.0 million. In full production, it will have an intake of 10,000 tons of molasses and will produce roughly 1.0 million proof gallons of alcohol. Direct employment will be provided for 24 persons. Investment in the factory during 1961/62 amounts to Rs. 0.4 million in local costs and Rs. 1.5 million in foreign costs.

In 1961 our requirements of sugar were 190,000 tons. The combined output of both Kantalai and Gal Oya were less than 2 per cent. of this figure due almost wholly to the failure to cultivate and harvest adequate quantities of sugar cane.

20. Fruit canning and processing

The project is to be carried out with assistance from the U. N. Special Fund to which a request for aid has been made. The products will consist of canned fruit, bottled and canned fruit juices, jams, jellies, sauces and chutneys. The Department for Development of Marketing will handle this project and will train personnel in improved methods and techniques of fruit canning and processing. The estimated total cost of the project is Rs. 5.3 million. The phasing has not yet been determined.

21. Milk Board Development Projects

The Milk Board established in 1954 has been operating for the past five years at a loss. The quantity of milk collected is on the increase but the market for the milk at the price and in the form as now sold has reached saturation point. One of the main efforts of the Board is therefore to undertake conversion of milk into processed products of various types. The investment programme of the Board provides for the setting up of a Condensery and a Spray Drying Factory to manufacture full cream powered milk respectively.

The total fixed capital cost of the condensed milk project is Rs. 2.785 million. At capacity, working double shift the plant is expected to produce 20 million 14 ounce cans of full cream condensed milk. The present consumption of condensed milk as measured by the imports into the Island is in the region of 19 million cans of milk. The factory will provide employment to about 140 people. Initially the plant is expected to work with imported raw materials. Even on this basis it is expected to save Rs. 2.427 million in foreign exchange. It is expected however that the condensed milk factory will ultimately operate with supplies of fresh milk made available from the Tamankaduwa Farm. Its requirements will be in the region of 86,000 pints a day. Working entirely with local milk the foreign exchange saving will be Rs. 13.475 million. The gestation period is 2 years.

Spray Drying Project

Imports of full cream powdered milk to the island in 1961 were valued at approximately Rs. 15.303 million. The Milk Board's proposal to open up a spray drying factory has been approved in principle and a nominal provision of Rs. 400,000 has been included in the estimates for 1962/63. The Board is examining the economics of opening up a plant with a smaller capacity than originally planned. Once these investigations are complete the project will be taken in hand. The total capital cost of the smaller plant is tentatively fixed at Rs. 1.544 million.

Vitamilk Repacking Project

The Board has for some time been marketing an infant food manufactured in New Zealand according to a formula provided by a panel of Ceylon doctors. The Board now proposes to import the milk powder in bulk form and repack it in Ceylon thus making considerable profits. The total capital cost of this Repacking Project is Rs. 240,000. It is expected to give employment to 35 people.

PRODUCTION TARGETS SHORT-TERM PROGRAMME

(Industry—Public Sector—(Total Production in each year)

Product	*Unit*	*Production from past investment* 1961–62	1962–63	1963–64	*Annual output at optimum capacity from investment*	Private Sector		
						1961–62	1962–63	1963–64
1. Hardboard	Sq. ft. or tons	—	—	25,000,000 sq. ft. or 7,500 T	—	—	—	—
2. Tiles	No. of tiles	—	1,500,000	6,750,000	10,000,000 (inclusive of additional 1,500,000 from Gal Oya	32,000,000	n.a.	n. a.
3. Iron and Steel	Tons	—	—	—	35,000 tons after 1965	—	—	—
4. Cement—								
(*a*) K. K. S.	Tons	82,000	82,000	175,000				
(*b*) Galle	Tons	—	—	100,000	275,000 (1965)	—	—	—
(*c*) Puttalam	Tons	—	—	—	200,000 (1965)	—	—	—
5. Textiles (exclusive of yarn) Veyangoda	Yards	—	—	10,000,000 finishing 2,000,000 woven and finished fabrics	10,000,000 woven fabric	9,000,000	14,000,000	15,000,000
					24,000,000 finishing	14,000,000	14,000,000	21,000,000
Pugoda	Yards	—	—	—	10,000,000 woven fabric	(H&P Loom)	(H &P Loom)	(H &P Loom)
6. (*a*) Ceramics	Tons	700	800	840	3,240 (inclusive of 2,400 tons from 2nd Factory, Boralesgamuwa)	—	—	—
(*b*) Kaolin	Tons	—	—	5,500	5,500	—	—	—

7. Leather foot-wear	Pairs	100,000 (DI)	200,000	400,000	400,000	2,000,000	2,500,000	3,000,000
8. (*a*) Paper	Tons	4,500	5,500	9,000	9,000	—	—	—
(*b*) Paperboard	Tons	—	—	9,000	9,000	—	—	—
9. Fertiliser Ammonium Sulphate	M Tons	—	—	—	300,000 (1965)	—	—	—
10. Petroleum	M Tons	—	—	—	1,275,000 (1968)	—	—	—
11. Flour Mill	Tons	—	—	—	50,760 Flour (1966) 2,115 Feed meal 705 Screenings 16,215 Bran			
12. Sugar	Tons	4,450	11,940	17,340	—	—	—	—
13. Tyre (Car Tyres)	Nos. tyres	—	—	—	110,000 in 1st year (1966)	—	—	—
Stage I					250,000 in 3rd year			
14. Condensed Milk	14 oz. cans	—	—	20,000,000	20,000,000 (1964)	—	—	—

Note.—These targets have been set down from relevant information furnished by the various corporations and agencies.

n.a.—not available.

CHAPTER 17

INDUSTRY—PRIVATE SECTOR

The role of the Private Sector in Industrial Development

In the Short Term Programme the major proportion of Investment has been allocated to the Public Sector. This emphasis on the Public Sector is both a reflection of the pattern of society that is being shaped by Government and an expression of the need for the large increase in capital investment necessary to ensure the steady growth of the economy and the raising of the living standards of the people. This, however, still leaves the Private Sector a large scope for participation in the economic development of the country.

Two general indicators point to an increase of activity in private sector industry in the last year or so. The first is the large increase in the number of applications to set up industrial enterprises which have been approved by the Ministry of Industries. The total investment contemplated by these enterprises is approximately Rs. 81 million. This investment has been largely induced by the import controls introduced in 1960 and 1961. The other indicator is the operations of the Development Finance Corporation of Ceylon. This Corporation began its activities in 1956 and by the end of March 1962 the total amount of its participation in development projects was Rs. 25.1 million. Practically the whole of investment has been in industry. As the Corporation generally participated on the basis of equal investment, the total investment associated with the Development Finance Corporation of Ceylon was of the order of Rs. 57 million.

The attainment of high targets in private sector industry will depend on the initiative of the private sector, and, institutions and policies that may be required for its operation.

On the basis of data for 1962 and 1963 and projections for 1964, the Short-term Programme for private sector investment is given below :—

Investment Table—Private Sector Industry*

(Rs. Millions)

	1962	*1963*	*1964*
Small-scale Industry	6·80	6·80	10·00
Medium and large-scale Industry	33·80	33·80	33·80
	40·60	40·60	43·80

*This investment figure for small-scale Industry also appears in the Chapter on Small-scale and Cottage Industries.

The following Table sets down the features of the sector in terms of major criteria :—

Sector	*Gestation Period*	*Capital/Output Ratio*	*Capital/Labour Ratio*	*Capital/Foreign Exchange Savings Ratio*	*Capital/Profit Ratio*
Small-scale and Cottage	8–9 months	·33 : 1	3,000 : 1	·53 : 1	·52 : 1
Medium and large-scale	about 2 years	·55 : 1	10,000 : 1	1·50 : 1	·74 : 1
Total Industry		·44 : 1	5,340 : 1	·89 : 1	·64 : 1

It will be seen that investments in this sector mature relatively quickly. The ratios of output, foreign exchange saving and profit to capital invested are also favourable. The capital-labour ratio is also low although not remarkedly so as compared with some large industries in the public sector. The advantages will acrue to private sector industry as almost all the large-scale capital intensive projects fall into the public sector programme. The stringent import control measures introduced last year, as well as a number of tax and other incentives have given considerable fillip to private sector investment although their full impact has not been felt yet.

The broad pattern of incentives provided could be grouped under the following cotegories. The government is helping private enterprise in a variety of ways, viz:

Promotional assistance ;

Tax incentives ; and

Protective tariffs and concessionary duties.

In addition, policies and measures relating to Finance and Credit ; and Wages and Labour management relations are also receiving the attention of Government.

Promotional Assistance

The Ten Year Plan considered that the setting up of a Ceylon Industrial Promotion Corporation would provide the institutional machinery through which private initiative could be harnessed to serve the needs of the country particularly in the field of small-scale industrial enterprises. These often lack the experience to look for and avail themselves of facilities which the Government is prepared to provide. It must be mentioned, however, that the needs of small-scale industry will partly be met by the Small Industry Service Institute which is being set up at Velona.

The Government has not set up a separate promotional corporation. But it created a Development Division in the Ministry of Industries in 1961, to evaluate and plan projects in the public sector and promote industrial development in the private sector.

The Division will explore industrial possibilities, carry out market surveys, and make the results of the evaluations and surveys available to the public so that national and foreign investors will have ready access to basic preliminary data. It will also assist existing industry. As the expansion of existing industries and the setting up of new industries will require prior approval, investments in the private sector would be channelled to meet the needs of the economy. The system of regulation will prevent waste of resources and result in the concentration of investment in desired fields.

This Division will offer advice to all members of the public who desire to invest in an industry. The advice will cover marketing, protection and allied measures, raw materials, machinery, export and exchange and import control matters.

Such steps as may be necessary from time to time to improve the nature and volume of promotional assistance rendered will be kept in view by the Government.

Tax Incentives

This is a subject that has received continuing attention by the Government. It was referred to in the White Paper entitled " The Budget and Economic Development " published last year with the Budget.

The Policy of the Government towards private foreign capital was set out in the Budget Speech of 1960/61. It was stated there that foreign private capital would enjoy all the tax, tariff and other benefits accruing to local capital, and would in addition, be given the following facilities:—

(i) Permission to repatriate freely dividends and eventually, the assets ;

(ii) Permission to bring in necessary technical and managerial personnel ;

(iii) Remittance abroad of part of the earnings of such personnel ;

(iv) Avoidance of double taxation.

Consideration is being given to embody these and other aspects of the Government's policy in regard to private foreign capital in a Parliamentary Resolution. A Committee on foreign investments has now been set up in the Ministry of Industries to consider proposals for investment in which foreign capital will participate.

Protective Tariffs and Concessionary Duties

An Import Policy Committee has been appointed to consider and advise the Government on the measures for conserving foreign exchange through various types of import restrictions, to promote the local production of substitutes for imported goods, to consider further revisions in import policy, to recommend tariff inducements and incentives for the promotion of local industry, etc. To assist in the proper working of this body, an *ad hoc* Committee has already been set up to work out the broad picture of a foreign exchange budget as it would emerge in the development context. This is necessary in view of the importance of conserving foreign exchange while at the same time ensuring the inflow of investment goods.

The Import Policy Committee will work in close liaison with the Central Bank and the Department of National Planning.

Since one of the major aims of industrial investment is import substitution, the grant of concessions by the Import Policy Committee would be tied to achievement in this respect. Projects which produce consumer goods, which are of relatively short gestation period and whose programme of investment contemplates progressively reducing dependence on imported raw materials, would generally speaking, receive higher priority both for investment approval and for concessions and protection.

Finance and Credit

Various sources and agencies have provided finances to the Private Sector in varying degrees. They are capable of meeting expanded needs. The primary point about credit seems to be, more than availability or cost, the credit-worthiness of the borrower. In an industrially underdeveloped country most potential borrowers have low credit worthiness. This inhibits lending institutions from extending credit which, in turn, retards industrial expansions. One of the factors that may help us out of such a situation would be participation by private foreign capital.

The Ministry of Industries and agencies such as the Small Industry Service Institute, C.I.S.I.R. and D.F.C. can help improve credit worthiness of borrowers by close co-ordination of their efforts.

Training of Labour Skills

An aspect of industrial development to which attention is being paid is the expansion of facilities to provide the necessary manpower and technical skills for industry. The Government has established several technical schools already and will in the immediate future take the necessary steps to expand the out put of technical personnel. It might be worth considering whether some of the larger firms in Ceylon may not undertake to train personnel. By this method the number of technicians and foremen turned out could be increased.

The efforts that have been made of late to increase productivity in industries by the organisation of courses in management and productivity are steps in the right direction and would continue to receive the assistance of Government.

It may also be mentioned that the number of holidays, leave and other facilities should be reviewed in order to ensure optimum output from the increasing number of industries.

Pricing

While lower duties on imported capital equipment reduce costs, tariffs on imported finished products tend to raise prices. These measures should increase the margin between costs and prices for local manufacturers and enable them to build up funds for re-investment. This consideration should be taken into account in fixing prices.

On the other hand, prices should not be fixed indiscriminately at high levels. For one thing they should not be cover for inefficiency For another, the protection extended to an industry should be temporary and conditional on its adopting practices and methods that Government may require. The prices fixed should be subject to periodical review.

There are certain products that are basic to the cost of living, or are vital elements in the cost-structure of manufacturing industries. Examples are rice, textiles of certain types, transport, power, fuel, oil, etc. It is necessary in fixing prices of such goods and services to pay adequate attention to their wide economic significance as factors in the cost of living or the cost of manufacture. While some rise in prices is unavoidable in a period of development, the prices of these commodities must be stabilised in order to maintain the cost of living and to create surpluses for investment.

Export Promotion

Certain industries in this country have reached the stage at which they can undertake to export their products. The question of rendering assistance to such industries is now receiving the attention of Government. It would be too optimistic to expect substantial additions to our foreign exchange resources from this activity. However it would be a welcome beginning in the right direction, particularly in the context of likely regional marketing arrangements in this part of the world.

Planning Machinery and the Private Sector

In order to assist the Government in drawing up a Short-term Programme for the private sector, a Committee composed of representatives of Chambers of Commerce, the Development Finance Corporation, and the Development Division of the Ministry of Industries, was recently constituted by the Department of National Planning. It was stated in an earlier chapter that the Short-term Programme for this sector was prepared on the basis of questionnaires sent out to various investors in industry. This was achieved through this Committee which undertook the distribution of these questionnaires to their members. Organisational and policy matters relating to the Short-term Programme were also discussed in this Committee and its views taken into consideration.

This Committee has functioned as a co-ordinating agency, serving as a useful point of contact for the private sector with the Governmental planning machinery. In addition to its participation in the preparation of the Short-term Programme for the private sector, this Body is concerned with the follow-up and implementation of the Programme. It would help provide the means not only to better understanding of the needs of the private sector, but also to fuller appreciation of the responsibilities that the sector itself must undertake. The exchange of views that is facilitated by such a medium has a useful role to play particularly in matters that can usefully be clarified and understood more by an exchange of views rather than an exchange of statements through other media. It is expected that this liaison will contribute materially to realising and perhaps exceeding the targets set down in the Programme.

Conclusion

The facilities that have been outlined above should enable the private sector to attain Programme targets. It is expected that the private sector will go forward with its own activities as an integral part of the economic development programme of this country.

Investment magnitudes in the private sector have not been obtained by totalling the individual plans of each firm or concern. They have been calculated on the basis of information supplied by the Development Division Ministry of Industries and give a broad pattern of incentives as they appear in the preceeding pages. Hence it is not possible to set out a table of production targets for the private sector.

CHAPTER 18

SMALL-SCALE AND COTTAGE INDUSTRIES

The industrial programme described so far is largely concerned with large and medium sized industries. There is, however, another branch of industry to which attention has to be devoted, viz., small-scale and cottage industry. The Department of Rural Development and Cottage Industries has defined small-scale industries as "All those industries which are mainly motivated with power and involve a capital investment (land, buildings and machinery) which does not exceed Rs. 200,000".[1]

There are, at least, two important reasons for including small-scale and cottage industries in a programme of economic development. First is the labour intensive nature of the technical processes used. The amount of labour used per unit of output being high, considerable employment benefits can be obtained from the expansion of this programme. In the context of a rapidly expanding workforce and the urgent need to extend employment opportunities, the small-scale and cottage industries sector should play a significant role in our industrial programme. The second reason is the quick-yielding character of this type of investment. This will partly balance the long gestation period of large-scale projects—e.g., iron and steel, fertiliser, oil refinery—and lower the overall capital output ratio.

To exploit fully the potentialities of the sector, the Government adopted a new approach to small-scale and cottage industries. This was the switch from cottage industries based on traditional handicrafts to mechanised small-scale manufacture, If this new approach is pursued small-scale industries can play a greater role in the industrial programme. It can produce not merely finished commodities but also intermediate goods for other industries, both small and large scale. An obvious example would be the manufacture of bicycle parts by small-scale firms for large enterprises engaged in making cycles. This is the major role that has been assigned to small-scale industry in other countries. In addition, it could utilise by-products of major industry in the manufacture of small-scale products. The scope of the small-scale sector would not therefore be confined to producing merely "traditional" items or simple consumer goods, but would extend to the production of goods and services that require skills in the electrical, mechanical and engineering fields. The scope for development in art line textiles, etc. would of course be pursued vigorously.

---

[1] This is the definition adopted by the Department of Rural Development and Cottage Industries. 'Cottage' and 'Handicraft' have been defined as follows :—

Cottage Industries.—Industries which will carry on wholly or primarily with the help of members of the family either as a whole or as part-time contribution.

Handicraft Industries.—Industries the products of which are artistic in character and require skill and craftsmanship in their manufacture.

The adoption of this programme is partially dependent on the availability of cheap and adequate supplies of Power. In this connection it is worth recalling what was said in the Budget and Economic Development issued last year. " Electric power is available only in the major towns of Ceylon. Even then the supply is neither adequate nor cheap enough. The setting up of small-scale and cottage industrial units in areas away from the main urban centres of Ceylon is in many cases seriously hampered by this fact though plans are afoot for the extension of the electrical grid throughout the Island. It will yet be quite some time before it becomes possible to channel electrical energy throughout the rural countryside of Ceylon. There appear to be two ways of getting over this difficulty:

(1) Undertake processing or semi-processing of raw materials in areas where power is readily available and make available these processed or semi-processed materials to cottage industrial workers in those areas which do not have the advantage of power. This approach would necessarily involve the creation and maintenance of a widespread administrative and marketing organisation which could properly channel and control the movement of these processed and semi-processed goods.

(2) Use small generating units which could supply the power required. The main obstacle here appears to be that of cost. It has however been suggested that these small generating units could be used as stop-gap units until such time as power from the grid is made available.

Whatever be the solution decided on, one thing is, however, very clear and that is that the provision of cheap and adequate power supplies really holds the key to future development of the small-scale and cottage industries of Ceylon." ("The Budget and Economic Development, 1961" pp. 43 and 44.)

The Government has already taken steps to establish an Industrial Estate at Ja-Ela. The Estate will provide facilities like buildings, electricity and water and thereby reduce the capital costs of establishing certain industries and attract small industrialists to set up there and produce finished and intermediate goods.

In keeping with this new approach to small-scale and cottage industries, the Government has decided to create a special financial organisation and to reorganise the administration of the small-scale and cottage industry sector. During the years 1960 and 1961 the investment in this sector amounted to Rs. 900,000 and Rs. 2,140,000 respectively.

The reasons for the low investment are partly general and have been dealt with elsewhere in this document. They are also partly specific to the Small-Scale and Cottage Industries sector. The main reason is the delay in setting up a Small Scale and Cottage Industries Development Board.

In the meantime, and as an interim measure, an Advisory Board for Small-Scale and Cottage Industries was set up in December, 1961. This Board is served by seven members—four officials and three non-officials. Its main function is to advise the Minister for Industries, Home and Cultural Affairs on matters connected with the promotion and development of small-scale and cottage industries in Ceylon.

There have been other significant changes too. The first occurred at the inception of the present Government when the Department of Rural Development and Cottage Industries was brought under Ministry of Industries, Home and Cultural Affairs. This step has prevented conflicts of policy and provided the basis for co-ordination between the large and medium-sized sector of industry and the small-scale and cottage industry sector. There is already close liaison between the Development Division, Ministry of Industries and the Department of Rural Development and Cottage Industries. This will avoid overlapping of functions, preclude conflicts in policy decisions, and, most important of all, prevent over-investment in different branches of industry.

Another important change that is taking place is the setting up a Small Industry Service Institute. The functions of the new Board are to be in part Research and Technical advice which are of paramount importance in pushing forward a programme of development in this field. The Government is, however, aware of the difficulties of setting up an autonomous board to manage the affairs of the small-scale sector and has already taken the necessary steps to provide, within the existing framework, research, technical and advisory services. The Government has very recently signed an agreement with the Special Fund of the United Nations for the establishment and initial operation of a Small Industry Service Institute in Velona. The Special Fund allocation is US $ 1,013,000 and would be used to provide experts' services, fellowships for the training of local personnel and the provision of machinery. The Ceylon Government's counterpart contribution is estimated at U.S.

$ 1,321,000. Foreign experts are expected in mid-1962 and by the end of the year the institute should begin to take shape. Its establishment should go a long way to satisfy the need for a well equipped research, training and advisory institution.

It might also be mentioned that the Department of Rural Development and Cottage Industries assisted by the Department of National Planning has recently concluded a survey of cottage industries. The information collected is being processed. This survey should help in great measure the working out of a policy to improve the state of cottage industries, and be of valuable assistance to the Small Industries Service Institute as well.

The Government is now abandoning its policy of direct participation in industry in favour of granting loans to individuals and co-operatives. In pursuit of this new policy, the Loans Division of the Department of Rural Development and Cottage Industries has been strengthened.

The consideration of these factors has influenced the investment programme for the small-scale and cottage industries sector in the 3-year period. The relevant Table of investment appears below :

SMALL-SCALE AND COTTAGE INDUSTRIES—TABLE OF INVESTMENT FOR THE 3 YEAR PERIOD (1962–1964)[1]

(Rs. Million)

	1962	*1963*	*1964*
Rural Development and Cottage Industries Department	1·70	2·96	·49
Loans to Industrialists	6·00	10·00	15·00
Investment by Private sector	6·80	6·80	10·00
Total	14·50	19·76	25·49

[1] Up to 31.3.62 Rs. 13.6 million has been approved by the Ministry of Industries, Home and Cultural Affairs for small-scale industry. It is assumed that the investment will take place in 1962 and 1960. With the creation of the Smal Industries Service Institute and the granting of incentives to the private Sector, it is assumed that the volume of investment will continue to grow.

The investment programme of the Department of Rural Development and Cottage Industries includes provision for the establishment of an Industrial Estate for Small-Scale and Cottage Industries. It is proposed to locate it at Nattarampota in the Kandy District. The Government intends to provide the facilities for handicraftsmen to practise their ancient crafts.

But the major portion of the investment in this sector will come from private industrialists and societies. This is, of course, in keeping with the Government's policy of not actively participating in the establishment of industries in this sector.

The imposition of import restrictions has greatly stimulated industrial activity in the private sector. This is partly evidenced by the relative large number of applications to set up industries in Ceylon in both the large and small-scale sectors. The Government is confident that with the creation of an agency such as the Small-Industry Service Institute and the granting of the necessary concessions and protection to private enterprise the volume of private investment, particularly in the small-scale sector of industry, will continue to grow specially in the period beyond 1962-1964.

It was mentioned elsewhere in this Chapter that one of the major reasons for an investment programme in the small-scale and cottage industries sector was the employment benefits that would accrue from it. It is very difficult to calculate the number of persons who would find employment as a result of the investment programme. However, rough estimates indicate that the employment potential of this sectoral programme is about 20,000 persons over the period.[1]

The Table which appears below gives certain ratios for the small-scale and cottage industries sector :

Gestation Period	*Capital/ output ratio*	*Capital/ Labour ratio*	*Capital/ Foreign Exchange Savings ratio*	*Capital/ Profit Ratio*
About 8 to 9 months	·33 : 1	3,000 : 1	·53 : 1	·52 : 1

Note.—These figures have been obtained from the replies to questionnaires sent out by the Department of National Planning. In view of the limitations of the sample from which the figures have been obtained they have been checked against other data, in particular information available with the Ministry of Industires, Home and Cultural Affairs, for consistency.

---

[1] This estimate of the employment potential has been obtained in the following manner:—The employment from the projects of the Department of Rural Development and Cottage Industries was extracted from the replies to this Department's questionnaires. Similarly, the employment that would result from the investment of Rs. 13·6 million was aggregated. To calculate the employment for the private sector in 1963–64 and from the loans to industrialists, a capital/employment ratio of Rs. 3,000 per person employed was used. This ratio was the average derived for the small-scale field in the private sector.

From the Table it is possible to enumerate the advantages of the small-scale and cottage industries programme. In the first instance, the gestation period is very short. This means that additions to output will be made very quickly. Secondly, as observed elsewhere, the employment benefits of this programme are substantial. Thirdly, the capital output ratio is extremely favourable. Viewed particularly in a context where the scarcity of capital is one of the major factors impeding economic development this is a very attractive feature of the small-scale and cottage industries programme. Fourthly, the estimate shows capacity for substantial foreign exchange savings. Finally, this investment will bring in high profits which though limited in total can be re-invested thereby providing the base for an expanding industrial sector.

Since the exact quantum of investment in this sector is not known, it is not possible to include a Table on production targets.

CHAPTER 19

POWER

Industrialisation at a rapid rate carries with it a necessary implication, namely, that the supply of power should increase fast enough to meet the needs of an expanding industrial sector.

During the years 1958-59, 1959-60 and 1960-61, investment on power amounted to Rs. 13.6, 14.4 and 28.2 million respectively.

The main reason for the limited investment has been the delay in the availability of finance from the I. B. R. D. for Stage IIB Hydro Electric Scheme. Finance would be made available on the condition that a Ceylon Electricity Board would be established. But, the general problems involved in setting up the board delayed the presentation of the Bill to Parliament. These obstacles are now being cleared and final steps would to taken shortly in this matter. In the meantime, the I. B. R. D. has consented to finance this project.

In the 3-year Programme, the Department of Electrical Undertakings has, on the basis of the information supplied to it, been able to add the individual demand schedules for power and arrive at the total. It should be noted that there has been, as a result of import controls, a quickening of the tempo in the policy of import substitution, and the Ministry of Industries has received a large number of applications to set up industries in Ceylon. Since most of these proposed industries will be using electrical power, there will be a greater demand for power. This may place additional burdens on the authorities concerned and make 1965 a crucial year in so far as the supply of power is concerned.

It might also be mentioned that the supply of additional blocks of power have always been insufficient to satisfy total potential demand. This is so, for instance, in the case of local bodies where there is a measure of suppressed demand. In the immediate future it will be possible to meet some of these competing claims for power.

Taking into account the anticipated demand for power, and the delay in commissioning Stage IIB Hydro Electric Scheme, it is possible to indicate a programme for installing new capacity. The installed capacity and the recommended schedule for installing new capacity is as follows :—

Present installed capacity	*Completion Date*	*M.W. Capacity*
Laxapana Hydro		50·0
Steam and Diesel		27·0
Gal Oya Power Link		2·5
		79·5
Grandpass Thermal I	September, 1962	25·0
Grandpass Thermal II	September, 1963	25·0
Less obsolescent Thermal	Early 1964	-15·0
Stage IIB Hydro	Mid 1964	50·0
Maskeliya Stage A I	Mid 1966	60·0
		224·5

As a result of the delays in Stage IIB Hydro Electric Scheme it has been found necessary to advance the date for bringing into use the second thermal set at Grandpass. This set, together with the first thermal set will initially serve as a normal load bearing plant.

It is now possible to balance the supply and demand for electric power over the next few years. This is shown in the Table which follows:—

ESTIMATED KILOWATT-HOUR REQUIREMENTS AND KILOWATT-HOUR AVAILABILITY*

(Minimum Water Year)

1 *Year ending 30th September*	2 *Kilowatt-hour Requirement (Millions)*	3 *Kilowatt-hour Availability (Millions)*	4 *Excess of (3) over (2)*
1961	291	309(*a*)	+ 18
1962	332	379(*b*)	+ 47
1963	379	532(*c*)	+153
1964	443	511(*d*)	+ 68
1965	567	609(*e*)	+ 42
1966	697	909(*f*)	+212
1967	834	909	+ 75
1968	909	909	0

*Based on figures furnished by the Department of Electrical Undertakings.

Represents the supply and demand position of the D. G. E. U. System.

(*a*) Stage I and IIA Hydro ... 225 million (minimum water year)
New Diesel ... 63 "
Old Steam and Diesel ... 21 "

(*b*) Grandpass First Set as Thermal back-up—70 millions.

(*c*) Grandpass Second Set—normal load carrying 153 millions.

(*d*) Less Old Steam and Diesel—21 millions.

(*e*) Sage IIB Hydro—98 millions (minimum water year).

(*f*) Maskeliya—300 millions.

The bringing into use of Stage A of the Maskeliya power project will avoid a serious shortage of power which is anticipated in 1966. It should, however, be noted that additional power will be need by 1969. This could be supplied by the Mahaweli Diversion Scheme or by completing another stage of the Maskeliya project.

The investment costs of the proposed programme appear in the Table below:—

ELECTRICITY SUPPLY INVESTMENT EXPENDITURE

(*Rs. Million*)

Year ending 30th September	*1962*	*1963*	*1964*
(1) Stage II A Hydro	2·600	2·129[1]	·700
(2) Stage IIB Hydro	61·100	59·088[2]	34·248
(3) Grandpass II, Thermal	5·000	13·582	3·155
(4) Maskeliya Stage A1	2·000	18·030	39·200
(5) Gal Oya Power link	10·082	1·272	—
Total[3]	80·682	94·071	77·303

[1] Includes Rs. 629,400 from Reserve, Extensions and Renewals Fund.

[2] Includes Rs. 730,000 from Reserve, Extensions and Renewals Fund.

[3] Reserve Extension and Renewals Fund expenditures not related to the above projects do not appear in the Table.

This investment programme has to be adhered to if additional power is to be obtained at the anticipated rate. There are, however, certain bottlenecks which may hinder implementation. They include the possibilities of delay in the granting of import licences to contractors engaged in civil engineering works, of delays in the harbour, &c. There is also the difficulty of obtaining freight to Ceylon and it may be necessary to charter ships at extra cost to bring the materials, equipment, &c. If these hindrances are not cleared they can slow down the work on the power projects and delay their commissioning. In this way they could contribute to power shortage, thus creating a situation the programme is seeking to avoid.

In the past, a substantial portion of the cost of the electricity supply programme has been met by foreign borrowing, notably from the World Bank. In this Programme too, reliance is placed on foreign borrowing to meet the foreign exchange costs of the power programme. In the three years 1962 to 1964 Stage IIB Hydro Electric Scheme, Grandpass II and Maskeliya Stage A1 will receive Rs. 123.8 million of foreign finance. The world Bank will meet the foreign costs of the first two projects while Maskeliya will be financed by Canadian credit. This reliance on foreign borrowing is one of the features of the power programme and it is most probable that it will be carried into the future. However the possibilities of further loans are good because electric power is a sound investment.

In the 10-Year Plan it was stated that one of the aims of the Electrical Department should be to supply cheap power. Consequently, the Plan recommended the abolition of customs duties on fuel oil and capital equipment, in addition to exempting power projects from the payment of income tax. In this way the Plan felt that cheaper power would stimulate greater demand and also reduce the costs of industrial products. However, the question of the reduction of duties on fuel oil and capital equipment is part of a more general problem relating to the capital costs of all developing industries. This will receive the attention of the Import Policy Committee.

Another aspect of electric power supply to which attention has to be paid is rural electrification. The view is held by some people that not merely does rural electrification bring the electricity supply to farming and rural industry but it is also an agent of modernisation. There are however certain practical difficulties in a programme of rural electrification, though it must be mentioned that the extension of the island grid will partly meet the demand for electricity in the rural areas. A programme of rural electrification calls for a certain minimum capital investment and to warrant such expenditure a minimum annual return should be forthcoming. It can be argued that such a programme may be subsidised by the profits obtained from the more developed areas, but this raises the more general question of resource allocation.

The Electrical Department has been spending about Rs. 200,000 per annum on rural electrification. An impetus has been given by a loan from the USOM of Rs. 1.730 million for providing electricity for 50 villages. The cost of the entire project is Rs. 3.204 million. A novel feature is that service connections and internal wiring in these villages will be provided by the Electrical Department in the first instance.

In the 10-year Plan the prospects for nuclear power were held to be bright. It was expected that there would not be any startling reductions in the costs of energy produced by thermal plants over the next decade or so. Moreover it was felt that nuclear power engineering was on the threshold of advance and that nuclear power costs would be very soon competitive with Ceylon hydro electric costs. However, developments in the period 1959-61 have necessitated a revision of these views. In the first instance, development in the more efficient manufacture of thermal plants and a reduction in the price of fuel have led to a major reduction in the cost of operating thermal plants, especially in the U. K. Secondly, the expected break-through in nuclear costs has not yet occurred at the anticipated rate. As far as Ceylon is concerned, this means reliance on hydro electric projects for our programmes in the immediate future.

A subject which has been receiving the attention of government is the creation Water Resources Board. The presence of competing claims for the use of water, namely hydro-power, irrigation and flood control necessitates the creation of an organisation to allocate and control this scare resource. One instance of the need for very close co-ordination occurred in the case of the Maskeliya Project which will utilise water from the upper reaches of the Kelani Ganga that is itself being studied for a large scale flood protection scheme. The Government has already decided on the creation of a Water Resources Board which will, generally speaking, control and allocate the use of the scarce resource. While the creation of such a Board is necessary the implementation of the proposals in the programme should not be held up in the event of any delay in the setting up of the Board.

Though hydro electric projects have a longer gestation period than thermal projects, the former should have preference over the latter in the circumstances of our economy because of the savings on foreign exchange. The capital/employment figure in the Table on page 69 shows a marked variance from that of the Ten-Year Plan. As these projects are capital intensive, it is necessary that their investment programmes receive early examination with a view to improving if possible on the programme ratio. The capital/output ratio of 8.64 compares satisfactorily with the nett figure of 7.85 in the Ten-Year Plan while the profitability of capital spent in this field is as good as in some projects in the industrial sector. It must, however, be mentioned that profitability is partly the outcome of pricing policy and that Power costs are at present somewhat on the high side.

CHAPTER 20

TRANSPORT

Transport and Communications are vital to general economic growth. They provide the infra-structure without which neither industrial nor agricultural development is possible. In the case of Ceylon we have a comparatively well-developed system of internal communications. Therefore the need is, firstly, to keep the existing system in a state of efficiency and only, secondly, to expand it to meet increased demands.

Transport development contributes to economic development in three main ways : enlarging the market and thereby further stimulating economic specialization ; helping the exploitation of additional resources by making them accessible ; and facilitating the establishment or expansion of other industries. In association with other favourable factors, transport development would enable the economy to become more dynamic and move forward on its own momentum towards higher efficiency and higher output.

The transport system comprises Roads, Road transport, Railways, Ports and Harbours, Shipping, Airports and Aviation, and Posts and Telecommunications. The following Table indicates the investment made and proposed in this respect in the three years of the Implementation Programme :

Table I

	Programme 1961/62	*Programme 1962/63*	*Programme 1963/64*
1. Roads and bridges (P. W. D.)	16·2	19·6	21·5
Roads and bridges (Local Authorities and other agencies)	18·0	18·0	18·0
2. Railways	34·3	34·5	29·6
3. Ports and Harbours	11·1	15·1	26·3
4. Aviation	12·3	7·3	4·1
5. Posts and Telecommunications	26·0	25·8	21·8
6. Lorries	37·5	37·5	37·5
7. Buses (including equipment and installations)	20·3	24·3[*]	17·8
8. Shipping	—	—	—
Total	175·7	182·1	176·6

[*] Rs. 13·5 million from the depreciation reserve, Rs. 4·903 being the balance out of a loan of Rs. 14 million given by the Government in 1960/61 and Rs. 5·947 million from an overdraft of Rs. 18 million approved by the Minister.

In the case of Ports and Harbours the major scheme of development is that proposed by NEDECO a firm of foreign consultants but since no final decision has been taken by the Government yet as to the manner of implementation of their report, it is not likely that the actual construction work will commence before the latter part of 1962-63. The deficiency in investment on Posts and Telecommunications is being made good from 1961-62 by the stepping up of investment on the Greater Colombo Development Scheme. The Ceylon Transport Board has had to make relatively high investment for two reasons. Firstly, the Board's expectations as to the roadworthiness of the buses taken over from the private operators were not realised. No regard had been paid to their maintenance in the year before nationalisation so that some of the buses almost literally fell to pieces in the first year of their use by the Transport Board. Secondly, the equipment available for the maintenance, repair and overhaul of buses was totally inadequate for implementing the policy of centralising heavy repairs.

It is necessary to ensure that the entire transport system of the nation is geared to the needs of the more 'productive' sectors of the economy and operated to serve them with the minimum expense of resources. The latter object can be realised if each mode of transport is used for the service for which it is best fitted. The essential ingredients of such a policy of transport co-ordination are :—

(*a*) the adjustment of freight rates of transport undertakings in accordance with the cost of haulage ;

(*b*) neutrality of fiscal legislation between the different modes of transport ;

(*c*) elimination of direct and indirect subsidies to undertakings ; and

(*d*) reimbursement to the undertaking of that part of the cost of unremunerative services and other public service obligations which cannot be recovered through the pricing system.

Government proposes to establish the necessary machinery for such an island-wide system of co-ordinated transport. The co-ordinating agency will be charged with the responsibility of reporting annually on the whole transport situation in the country. It will have to make studies of future demand and indicate what new projects, extensions or improvements are needed, where facilities overlap or exceed demand and what readjustments in services or development plans they call for. It will also have to advise on fares and freight charges for all forms of transport. It will be useful to consider some of the issues which such an Authority will have to confront. In the Programme itself it has only been possible to make rough estimates of relative needs in the different fields of transport. What is now required is a thorough investigation : of the costs of maintenance and replacement of " track " in the different fields ; of the proportions of this cost which it would be reasonable to charge to different types of consumers; and, in relation to these estimates and to estimates of the expected flows of traffic, what would be the most economic use of new investment in roads, railways, ports and aviation facilities.

As all transport agencies except those engaged in road haulage belong to the category of nationalised undertakings, it may be useful to clarify the financial obligations of nationalised transport undertakings. This question was examined in detail in a White Paper issued in the United Kingdom in April, 1961.[1] The White Paper points out that "first the task of government is to ensure that the industries are organized and administered effectively and economically to carry out their responsibilities and that they are thus enabled to make the maximum contribution towards the economic well-being of the community as a whole; second, although the industries have obligations of a national and non-commercial kind, they are not and ought not to be regarded as social services absolved from economic and commercial justification".

This would imply that when the Government, for non-economic reasons, requires any transport undertaking to provide any services below cost it is preferable that the general taxpayer should pay for them rather than that their net costs should be borne by other services provided by the same undertaking.

When scarce investment resources have to be shared between various transport undertakings, the financial performance of the undertakings concerned should largely determine the distribution of capital between them. This means that a transport undertaking that incurs continuous losses, except for unavoidable social reasons, would be considered a poor candidate for investment. If the profitability of capital development in the nationalised undertakings is assessed on different (and easier) financial criteria from those adopted in industry generally, there is a risk that too much of the nation's savings will be diverted into these undertakings.

In this connection it is necessary to adjust road and rail rates and charges on the basis of cost with suitable adjustments to stimulate traffic. If the tariffs of the services which road and rail transport undertakings provide are kept uneconomically low, demand for them and for investment in them will be artificially stimulated.

There is no co-ordinated planning of road development and maintenance. The responsibility for the construction and maintenance of the major part of our road system rests with the Public Works Department. But a considerable number of roads in semi-urban and rural areas are constructed and maintained by local authorities. There are also roads built by Rural Development Societies, Irrigation and Colonisation Roads, Forest Roads and Fisheries Roads. This multiplicity of Authorities concerned with roads is not conducive to uniformity of standards. Complications arise, for example, when the P. W. D. is asked to take over a road constructed by one of the other authorities. The Government is, therefore, considering the question of establishing, by statute, a Central Authority vested with responsibility to undertake the planning of roads.

---

[1] The financial and economic obligations of the nationalised Industries. H.M.S.O. Cmnd. 1337.

In order to ensure uniformity in the powers and responsibilities of Local Authorities and bring the rather antiquated provisions of the Thoroughfares Ordinance up to-date, the Hon. the Minister of Transport and Works has appointed a Committee " to examine the provisions of the Thoroughfares Ordinance (Cap. 148) and the existing provisions in the law relating to Local Government Authorities regarding public thoroughfares and to make recommendations for the enactment of new legislation regarding the powers and responsibilities of Road Authorities ".

Railway

Until recently the Railways enjoyed a monopoly of transport and it was proper for them to base their rates on the principle of " what the traffic can bear ". But now that this monopoly has been seriously eroded by the development of road transport and that in most types of service given by the railways they have to face the competition of lorries and buses, it is necessary for them to base their rates, as far as practicable, on the " cost of service " principle.

As the Ten-Year Plan points out " the Railway Department must necessarily, in the light of its financial behaviour, be regarded as a poor relation when investment resources are being shared out ". The Railway's working loss which was Rs. 29,169, 668 in 1958 and Rs. 30,280,140 in 1959-60 has gone up to Rs. 31,134,046 in 1960-61. This in turn means a greater subsidy from the government which will result in—(*a*) increased taxation on the people as a whole, and (*b*) a misallocation of resources.

It has been pleaded on behalf of the Railway and that railway rates and charges have remained constant for many years in spite of a general increase in prices. It has also been urged that the freeing of the goods haulier from the controls to which he was subjected, in January 1959, has exposed the railway to " unfair " competition. This argument has, however, to be examined with care. It would seem that it would be better for the Railway to concentrate on the sort of traffic for which it possesses distinct advantages and leave the others to lorry transport. If the railway is to prosper financially, it must develop a competitive outlook, look far more carefully at its costs of carriage and concentrate on commuter traffic, long distance passenger traffic and the haulage of big bulk commodities over long distances.

It may be appropriate to consider at this stage what sort of a charges policy would enable the Railway to prosper financially. In general terms it is necessary that the new classification of freight should be based on the " cost of service " principle. If the Railway continues to adhere to a classification based on the value of the goods hauled, the roads will continue to take more and more of the high rated, high value traffic leaving the Railway with the low rated, low value goods.

It is admitted that were such a pricing policy vigorously adopted some traffic at present moving by rail would have to be priced so high that it would either be " killed " altogether or that traffic would be carried by other means of transport. But from the national point of view it is desirable that the Railway should cease to handle traffic, which is either at present carried by it at a loss or which would be more economically carried by road. " For " as G. J. Ponsonby[1] points out " once the incubus of carrying certain traffics at a loss were removed, many other traffics could be charged (on a cost basis) at much less than at present. Such traffics would be thereby encouraged and in the long run possibly expand considerably. Thus the railways, by going over to charging more nearly to their real costs of carriage, would come to carry a larger and larger proportion of the kind of traffic which they are best qualified to carry, and less and less of the remainder. Thus the interests of co-ordination (functional specialization) would be truly served ".

There is another direction in which the Railway can adapt itself better to meet public demand. One of the chief obstacles to the wider use of the Railway for the transport of goods is the need to tranship by lorry at both ends of the haul whereas road transport can give a door to door service. The Railway must now attempt to give a door to door service by entering into suitable agreements with road hauliers. Then the customer will only have to make his booking with the Railway instead of having to make arrangements with one or more hauliers as well.

To assist the Railway to become more viable, it is necessary not merely that freight rates be classified on a more rational basis but that a careful examination be made of the profitability of various lines. For instance, as far back as 1937, the Hammond Commission[2], writing about the Kelani Valley line, pointed out that this line wes incurring a heavy annual loss and went on to say " Apart from financial considerations, this line, owing to its narrow gauge and excess of curvature is an unsuitable instrument nowadays for the work it has to perform, particularly that of carrying suburban passengers. Its route in Colombo and its outskirts is circuitious and the passenger trains do not average mre than 8 or 9 miles an hour. To convert it to 5 ft. 6 ins. gauge is out of the question as the cost for the first 15¾ miles to Homagama would be roughly Rs. 1½ million, and no adequate return could be expected on this expenditure. The line, no doubt, served a useful purpose in earlier days, but the fact must be faced that motor transport is now more suitable for this comparatively short-haul traffic, whether of passengers or high-graded products, than a narrow gauge line, particularly one where, as a result of excessive curvature, the speed of trains is very low. There has been recently, we understand, an increase in the revenue of the Yatiyantota branch, but we cannot regard this as permanent, and therefore on the grounds, both of finance and unsuitability, we recommend the closing of the whole line. "

---

[1] " Towards a new Railway Charges Policy " Journal of the Institute of Transport—September 1954.

[2] Report of the Special Commission appointed by the Secretary of State for Colonies to report on the Transport System of Colombo, pr 59.

What is now urgently required is an examination of the economics of this and other lines. The best test of public demand is the ability and willingness of the public to support a particular line.

The Government proposes, firstly, to carry out a comprehensive examination of the economics of the railway system and, secondly, to get one or more officers trained in the technique of traffic costing with a view to revising railway rates and charges. In this way, it is hoped to enable the Railway to operate without a subsidy from the government in the future.

The scheme for the development of the suburban services comprises (*a*) the construction of 45 power coaches and 135 carriages, and (*b*) the installation of colour light signalling between Veyangoda and Panadura. Item (*a*) is now complete and work on the colour light signalling is in progress. When this is completed the coastal and suburban lines will be utilised to their maximum capacity.

Orders were placed with the Government of the People's Republic of China for wagons and carriages valued at Rs. 15.3 million under the Ceylon-China aid agreement. These carriages and wagons are now being shipped to Ceylon.

Work is proceeding on the relaying of the Bangadeniya-Puttalam line which had been dismantled during the war. It is proposed to extend the line from Puttalam to a point some 17 miles north where there are limestone deposits which will provide the raw material for the second cement factory to be located near Puttalam.

A considerable volume of our exports of tea now goes through Trincomalee. In order to increase the carrying capacity and speed of trains on the Trincomalee line it has been decided to relay the Batticaloa-Trincomalee light railway with heavy section rails. Work on this project will commence in 1962-63.

Roads

Road transport, as compared with the railways, constitutes the expanding sector of the transport system. Investment on roads is, therefore, of undoubted importance.

Table II indicates that Ceylon has a higher road mileage in relation to the traffic offering than many countries in Asia. Considering investment demand by all sectors of the economy, it is more important that this road system should be maintained satisfactorily than that new roads should be constructed except where industrial or agricultural development indicates the need for new construction.

There is need for a planned system of roads. In order to achieve this objective, the Government obtained the services of Messrs Wilbur Smith & Sons, a foreign firm of highway engineers. The firm's highway engineers, working in close collaboration with the P. W. D. Traffic Branch, have completed the preparation of a comprehensive road plan based on traffic demand.

Maintenance cost

In an effort to estimate the relative maintenance cost of the various classes of roads, an analysis was prepared for the budget year 1960-61 by the members of the Traffic and Planning Study.

Twelve of the 42 P. W. D. districts were selected for study so as to present a representative analysis based on factors of geography, economy, topography, and climatic conditions of heat and rain. The costs involved in maintaining road surfaces, road sides and drainage facilities were analysed for typical sections for each class of road.

Provision for maintenance of the road system has to be increased after the budget year 1962-63 since the amounts levied in the past have not been sufficient to maintain the road system at a reasonable standard of efficiency. Also there has been an increase in P. W. D. road mileage, an up-grading of certain roads and an increase in the cost of labour and material during recent years. Roads are part of the nation's capital stock and it is essential that adequate provision be made to maintain the efficiency of the asset.

Table II

HIGHWAY STATISTICS

	Australia	*Burma*	*Ceylon*	*India*	*Japan*	*Malaya*	*Singapore*	*Thailand*
Total 1959	2,832,538	43,871	123,447	557,626	3,118,045	—	97,217	101,500
Automobiles	1,926,823	18,851	74,721	262,772	339,600	—	65,044	42,500
Trucks and Buses	805,450	18,400	33,782	227,668	1,294,547	—	14,929	36,000
Motor Cycles and Motor Bicycles	100,265	6,620	14,944	67,186	1,483,898	—	17,244	23,000
Miles of Paved Road	50,204	2,532	7,729	45 983	14,812	—	515	1,700
Total 1958	2,538,120	43,871	112,216	539,101	3,700,979	140,000	83,000	96,520
Automobiles	1,703,248	18,851	68,123	230,411	290,823	82,000	55,500	41,500
Trucks and Buses	739,610	18,400	30,321	212,435	1,196,543	28,000	15,000	34,370
Motor Cycles and Motor Bicycles	115,262	6,620	13,772	96,255	2,213,613	30,000	12,500	20,650
Miles of Paved Road	50,204	2,470	7,431	45,916	13,371	5,309	486	1,657

Source : International Road Federation Staff Reports 1959 and 1960.

A sum of Rs. 19,600,000 has been allocated for roads and bridges in the Investment programme for 1962-63. Of this sum, Rs. 3 million is for the construction of new roads recommend by the Kandyan Peasantry Commission, Rs. 4 million for strengthening, improving and renewing of bridges and construction of small bridges on trunk and main roads and Rs. 1,550,000 for widening and improving trunk and main roads and traffic flow improvements. The new items for 1962-63 are—

(1) A bridge across the Kandar Kalu Ela at Tamankaduwa Farm; (this item will be completed in 1962-63).

(2) Colombo Northern approaches to the new Kelani Bridge including an overhead bridge across the Kelaniya level crossing and existing Kandy road.

(3) Colombo South by-pass Stage I including an overhead bridge over the railway at Baseline Road.

(4) An overhead bridge over the level crossing at Slave Island.

(5) A bridge over the Maha-Oya at Badalgama.

The overhead bridges will become essential when work on the Railway colour light signalling scheme has been completed and the railway operates a 3-minute service at rush hours.

In the tentative estimates for 1963-64, provision for each of the overhead bridges has been increased to Rs. 1 million to enable the P. W. D. to finish the work in time. Provision of Rs. 18 million has also been made each year for roads constructed by Local Authorities, Rural Development roads and bridges, Irrigation and Colonisation roads, Forest roads, and Fisheries roads.

Road Passenger Transport

One of the principal recommendations of the ECAFE Seminar on Highway Transport (Road Passenger) held in October 1961 was " In order to ensure the financial stability of the industry and its expansion, goverments should formulate fare structures and taxation policies in such a manner as to provide not only for operating costs and reasonable profits, but also for the creation of suitable depreciation and other funds for the renewal of assets and to some extent for capital expansion. At the same time, the interest of the public and the general economic welfare of the country must not be forgotten."

The seminar considered that charges should not only take into account the capacity of the travelling public to pay but should also have some relationship to the tariff of other comparable modes of transport. It was considered that taxation on passenger transport vehicles was, in the ultimate analysis, a burden on the passenger. Hence the cumulative tax level should be generally so fixed that, taking into account the fares structures for similar travel by other comparable means of transport such as the railways, the operator should be left with a sufficient margin not only to meet the operational expenditure and the cost of replacement of the capital assets but also to provide an adequate return on the capital investment. It was further considered that, in fixing the total tax burden in respect of road transport, the tax contribution made by other modes of transport, viz., railways, waterways and airlines, had also to be taken into account.

Prior to the nationalisation of the bus services, the Government obtained the services of a team of German experts to report on both the economic and technical aspects of nationalisation. The team expressed the view that the government should assist the Transport Board to become a self-supporting organisation. Commenting on the existing fares, they said—

" In India transport conditions are comparable, but fares are higher than in Ceylon although the standard of living is lower in India. Should an increase of fares prove inevitable as a result of careful calculation and the evidence of the traffic census, the population will have to be made to understand ; the reason for the increase should be explained through press and radio information. The Minister of Transport has already taken exemplary pains to ensure the discussion of transport problems in the full light of publicity. The population will surely understand that a reasonable structure of fares will place in its hands the key to an adequate and sound transport system and the organic growth of its communal life. Naturally, an exemplary management of the omnibus service, able to withstand any criticism, is the precondition for sooner or later winning the confidence of the population. "

At the request of the Ceylon Transport Board a team of three advisers from India have made a comprehensive study of—

(*a*) supplies management ;
(*b*) vehicle maintenance practices ; and
(*c*) bus operation.

Their report calls for a reorganisation of existing practices and procedures. The Board has decided to implement their report in full and appointed three Members of the Board to take necessary action.

Steps are being taken by the Ceylon Transport Board to implement most of the recommendations of the Report of the Committee of Inquiry into the Ceylon Transport Board, S. P. IX, 1962. The Board is carrying out a comprehensive study of all its services with a view to finding out which of them are unremunerative. In the case of unremunerative services every attempt will be made by better scheduling and better utilization of vehicles to make these services pay. The Board is improving and extending the Werahera workshops in order that major repairs to buses might be expedited.

The Board is equipping its depots and garages so that all but major repairs may be carried out at the outstations. It is reorganising its administrative machinery in order to provide the public with a better service. Finally, within its limited financial resources, it is carrying out a comprehensive programme of bus replacement with standardization in tried and tested makes. This will enable the Board to achieve great economies in its expenditure on spare parts.

Capital Expenditure

The loans sanctioned by the Government at various times from 1957 for the initial purchase of 1,000 buses, contruction of workshop buildings, garages, depots, etc. and the purchase of essential workshop and other equipment amount to Rs. 98 million. The entire sum has been voted. The facilities available at the Central Workshop and in the depots and garages are still far from adequate. The Board estimates that a sum of Rs. 8.54 million will be required in 1962/63 to bring these facilities up to standard and also to provide other essentials such as bus-stands and shelters.

At present the Board operates over 350,000 miles per day, which is, on the average, the life of one bus. On this basis the number of buses required for annual replacement has been estimated at 375 costing approximately Rs. 15 million. Due to the Board's recurrent operating losses, the full amount in the depreciation account has not been made available for bus purchase in previous years. To make up the deficit in this account in 1960/61, the government voted a sum of Rs. 14 million in the estimates for 1961/62. In 1962 the full amount in the depreciation account would be available. Orders have, therefore, been placed for 685 buses to meet replacement and expansion.

The Board's programme for 1963/64 is estimated to cost Rs. 17,855,000 of which Rs. 14 million is for bus purchase, Rs. 2,897,000 for depots and garages, Rs. 892,000 for the Werahera workshops, Rs. 14,000 for the supplies organisation and Rs. 52,000 for bus-stands and bus halt signs.

Road Goods Transport

At the request of the Department of National Planning, the Department of Motor Traffic undertook a sample survey of goods haulage in the latter part of 1961 with the assistance of the Department of Census and Statistics. The information so obtained, although subject to several limitations, provides the first estimate made in Ceylon of the volume of goods hauled by lorries and vans. The results of the survey are presented in Table III below :

Table III—AVERAGE FOR AUGUST, SEPTEMBER AND OCTOBER, 1961

No. of lorries in the survey	1,183
No. of lorries in respect of which returns were received	722
No. of lorries in the Island	23,660

Item	*Aggregate ton-miles for 722 lorries*	*Estinated ton-miles for all lorries in the Island*
Vegetables, Etc.	68,374	2,242,667
Coconuts and coconut products	165,941	5,442,865
Tea	224,379	7,359,631
Rubber	38,213	1,253,386
Petroleum products	64,645	2,120,356
Sugar	38,753	1,271,098
Paddy and rice	125,812	4,126,634
Fertilisers	117,029	3,838,551
Fish	27,517	902,558
Cement	55,211	1,810,921
Timber and logs	88,526	2,903,981
Building materials	133,730	4,386,344
All other goods	570,141	18,700,625
	1,718,281	56,359,617

In order to gauge the quantum of traffic carried by the Railway in relation to the Roads, these figures were compared with statistics of the various categories of goods hauled by the Railway in the same three months—August, September and October, 1961, and the results are given in Table IV.

Table IV indicates that 4/5ths of the country's freight now goes by Road in spite of the restrictions that the Government has been compelled to impose on the import of goods vehicles in order to conserve foreign exchange. The transport of tea was formerly the preserve of the Railway. It has now largely gone over to road haulage.

Table IV

	Item		*Average ton-miles per month*		*Aggregate for road and rail*	*%by rail*	*%by road*
			Rail	*Road*			
1.	Tea		923,626	7,359,631	8,283,257	11·0	89·0
2.	Rubber		17,657	1,253,386	1,271,043	1·3	98·7
3.	Coconut and coconut product		192,548	5,442,865	5,635,413	3·4	96·6
4.	Paddy and rice		1,871,268	4,126,634	5,997,002	31·1	68·9
5.	Rice (imported)		2,947,255				
6.	Flour (imported)		2,103,967				
7.	Sugar		217,508	1,271,098	1,488,606	14·6	85·4
8.	Agricultural produce locally grown		1,274,545				
9.	Other imported foodstuffs including curry stuffs		143,659				
10.	Timber and fire wood		1,423,364	2,903,981	3,046,345	4·6	95·4
11.	Petrol	453,150	2,211,841	2,120,356	4,332,197	51·0	49·0
12.	Kerosene	480,863					
13.	Gas oil and dieseline	357,363					
14.	Diesel oil	888,515					
15.	Other petroleum products in packages	31,950					
16.	Salt		600,211				
17.	Cement		654,177	1,810,921	2,465,098	26·5	73·5
18.	Bricks, tiles and asbestos sheets		90,251	4,386,344	4,476,595	2·0	98·0
19.	Livestock		140,977				
20.	Fish			902,558			
21.	Vegetables			2,242,667			
22.	Fertiliser			3,838,551			
23.	All other paying traffic		207,546	18,700,625			
		Total	15,020,400	56,359,617	71,380,017	21·6	78·4

Although there are no previous estimates of the proportion of total ton-miles on road transport to total ton-miles on road and rail, there is reason to believe that the share of road transport is fast increasing. The Committee which reported on the Road Haulage Industry in October, 1958 (S. P. XII of 1958), pointed out that the Railway in 1956 carried 48 per cent. of the tea produced. This has now gone down to 11 per cent. The same Committee found that the Railway carried 20 per cent. of the rubber produced in 1956. This has now gone down to 1.3 per cent. The percentage of sugar transported by the Railway has gone down from 17.6 per cent. in 1956 to 14.6 per cent. in 1961. In 1956 the Railway carried 59 per cent. of the cement but only 26.5 per cent. in 1961. The Railway urges the Government to re-impose control on lorries since it is losing the traffic that it carried formerly. This question cannot be decided until a comprehensive investigation is made into the comparative costs of haulage by road and by rail.

The Department of Motor Traffic has estimated the total investment in public and private transport vehicles for 1961-62 at Rs. 66,382,500. The breakdown is as follows:—

	Rs.	c.
Motor Cars (P. & H.)	4,272,000	0
Motor Cycles	1,276,000	0
Motor Coaches (Private)	2,250,000	0
Motor Coaches (Omnibuses)	18,405,000	0
Lorries Proper	26,862,000	0
Trailers (Lorry and L. Vehicles)	2,167,000	0
Tractors (Lorry and L. Vehicles	10,230,000	0
Ambulances	900,000	0
Hearses	30,000	0
Total	66,382,500	0

Ports

Steps are being taken to ease congestion in the Port of Colombo. The economy of Ceylon is extremely dependent on foreign trade, the great bulk of which flows through this port. It is obvious that any inefficiency in the Port of Colombo has major effect on domestic prices and costs. It also affects the competitive position of our export industries in world markets and of domestic import substitute industries which have to rely on imported raw materials and machinery. In view of this the Government requested a firm of port consultants to examine and report on a scheme of port development. They have proposed a full-scale scheme of port development together with certain administrative changes including the establishment of a single Port Authority which would combine the functions of the Port Commissioner and the Port (Cargo) Corporation.

The scheme for Colombo Harbour includes the provision of transit sheds and, the provision of two repository warehouses at Queen Elizabeth Quay; a three-floored building on Delft Quay to be used as a transit shed and export offices and the construction of a repository warehouse at Mutwal. The major part of the port development scheme will, however, fall outside the period of the three-year programme. The construction work will commence in 1962-63.

The Port (Cargo) Corporation has a large fleet of steel lighters which require regular maintenance. The facilities available for this purpose are totally inadequate. Therefore the Corporation has commenced work on a Barge Repair Yard, which will be financed entirely from its own reserves at a cost of Rs. 1,765,000.

The scheme of port development within the present programme includes the development of Kankesanturai to meet the expanded programme of of the Cement Corporation and an appropriate development scheme for Galle. In the case of Galle, cylinders are to be sunk to a greater depth to enable larger vessels to be berthed in due course. Two alongside berths will be provided in a sheltered location. One of these berths will be for the discharge of cement clinker.

Fishery Harbours

The place of fisheries harbours in the fishing industry is dealt with in the Chapter on Fisheries.

An organisation has been set up within the Harbour Engineer's Department to undertake the work of investigating, planning, designing and constructing fisheries harbours and shelters. It has been decided that the development of fisheries harbours, should proceed independently of the programme for import-export harbours. However, the designs should fit into the main plan for development of the existing ports.

Work on the Galle fishery harbour which will be adequate to accommodate even deep sea trawlers, commenced in 1961-62. It is scheduled for completion in about 3 years time. The total cost of the harbour will be Rs. 6.6 million.

Plans and designs for the construction of fisheries harbours at Tangalla and Beruwala are now complete. Funds have been provided in the 1962-63 estimates for work to commence on the construction of these two harbours.

Postal and Telecommunication Services

Postal and Telecommunication Services provide part of that infrastructure which is essential to economic growth. According to a Table which appears in the Journal "Electrical Communication" (1960), Ceylon has only .34 telephones per hundred of population whereas Sarawak has .41, Cyprus 3.01, Hongkong 3.06, Israel 4.45, Japan 4.69, Lebanon 2.64, Malaya 1.00, North Borneo .58, the Phillipines .38 and Singapor 3.24.

This, in itself, may not appear serious, but telecommunication services are essential to a developing economy. If they are not available time will be lost in all spheres of economic life. In a development context undue waste of time is a real cost, and involves financial losses. It can also affect Ceylon's standing as a international trading nation. As far as possible the intention must be to maintain efficient services in this field.

The major projects within this field are (1) Greater Colombo Scheme (2) Overseas Telecommunication Service and (3) Development of Telecommunication Services outside Colombo.

A scheme for the development of Teecommunication Services in the Greater Colombo area was prepared in consultation with the British Post Office experts. The scheme is estimated to cost Rs. 44,478,400. The U. K. Government has agreed to grant credit to the extent of Rs. 34,700,000 being the cost of equipment required to implement the scheme. Orders for a part of the equipment required have already been placed. The scheme is to be implemented in stages and will be completed in 1963-64.

Increased and efficient overseas telecommunication facilities must be maintained especially in view of Ceylon's position as a link in the international telecommunication network.

While there is a need for increased telecommunication facilities outside Greater Colombo to meet the demands of economic development, the Government does not consider itself in a position to undertake a full fledged scheme of telecommunication development throughout the country just now. Therefore funds have been provided in the Three-Year period only to maintain the existing telecommunication networks in a state of efficiency.

Aviation

The major project in this field is the development of Katunayake into a first class international airport. Katunayake Airport will be shared by the Civil Aviation Authorities and the Royal Ceylon Air Force.

The Commercial Airlines operating through Ceylon have indicated that they will, in the near future, be introducing more modern, larger and faster aircraft. Therefore priority will be given to the lengthening and strengthening of the runway to take these aircraft. In addition, other airport facilities will have to be provided such as adequate communication and navigation aids, terminal buildings, hangar accommodation, apron and taxiways, car parks, approach roads, runway lighting and emergency services.

Ceylon has certain international commitments by virtue of her being a member of I. C. A. O. and her geographical position as a link in the International Air Navigational and Telecommunication network. These commitments have been provided for under "Airways communication system".

There is also the need for the satisfactory maintenance and improvement of internal airports in the country to bring them up to minimum standards for safe air navigation. At present the facilities at these airports are not up to full standard. Provision for these items has been made under "Airport fire-fighting services" and "Development of ancillary facilities". The latter item includes all equipment necessary for the proper maintenance of airfields.

It is recognized that all aerodromes in the country (Katunayake, Ratmalana, Kankesanturai, Trincomalee, Amparai, Batticaloa and Anuradhapura) should be brought up to the standards prescribed by the Air Navigation Regulations so as to provide safe flying for Air Ceylon. This is most important at the present juncture especially since Air Ceylon could play an important part in the scheme for the promotion of tourism in Ceylon.

Shipping

In 1960 a Committee on Transport reported on the possibility of operating Ceylon ships on (i) Burma-Colombo route to bring rice and (ii) the Calcutta-Colombo route to bring coal. Both routes were found to present a number of problems from the point of view of the economics of operation. This was mainly due to the non-availability of two-way cargo on both the routes. In the case of the Calcutta-Colombo route even one-way cargo could not be assured for a sufficiently long period.

The Government is now considering these matters further and also the possibility of operating on certain other routes such as Ceylon-China, Ceylon-Thailand and Ceylon-Central Europe. Since the profitability of operation of these routes has not yet been firmly established, no definite investment pattern has still been decided upon. In the meantime the Government has invited price quotations for the construction of vessels from Great Britain, West Germany, Japan, Poland and Yugoslavia.

APPENDIX I

Breakdown of Tentative Investment Figures for 1963/64

	(*Rs.* 1000)
Ports	
1. Revotes and Continuation items	13,768
2. Repairs to jetties at Trincomalee	1,200
3. Nedeco proposals	5,000
4. Tangalla Fisheries Harbour	2,000
5. Beruwela Fisheries Harbour	2,300
6. Galle Fisheries Harbour	2,000
	26,268
Roads	
1. Committed expenditure (excluding overhead bridges)	14,500
2. Overhead bridge—Kelaniya	1,000
3. Overhead bridge—Baseline Road	1,000
4. Overhead bridge—Slave Island	1,000
5. K. P. C. Roads	4,000
6. Roads constructed by Local Authorities, Rural Development Societies, Irrigation, Colonisation, Forests and Fisheries	18,000
	39,500
Railway	
1. Revotes and Continuation items	12,649
2. Colour Light Signalling	2,500
3. B. T. L. R.	4,000
4. Repair to flood damage	4,000
5. Bangadeniya-Puttalam	2,500
6. Renewal of locomotives	3,000
7. Aruakalu line	1,000
	29,649
Posts & Telecommunication	
1. Greater Colombo	15,624
2. Outside Colombo	4,200
3. Overseas Telecommunication Service	2,000
	21,824
Aviation	
1. Katunayake	2,143
2. Airport Communication system	780
3. Airport fire-fighting service	360
4. Ancillary facilities	100
5. Construction work	705
	4,088
C. T. B.	
1. Purchase of buses	14,000
2. Depots and Garages	2,897
3. Werahera Workshop	892
4. Supplies Organisation	14
5. Bus stands and Bus halt signs	52
	17,855

APPENDIX II

Output of Transport Services

The following statement indicates the anticipated output of the various services in the field of Transport and Communications :—

(a) *Road Passenger Traffic* (*C. T. B.*) (*in passenger miles*)

1961–62	3,674 million
1962–63	3,913 million
1963–64	4,082 million

(b) *Railway Traffic*

	Passengers (*In passengers-miles*)	*Season Tickets*	*Goods* (*In ton-miles*)
1961–62	650 million	510 million	183 million
1962–63	665 million	530 million	185 million
1963–64	685 million	560 million	190 million

(c) *Port Traffic*

I—STATEMENT OF THE CARGOWISE TONNAGE HANDLED AT THE PORT OF COLOMBO FOR THE PERIOD AUGUST, 1961/JULY, 1962

Period	*Rice*	*Flour*	*Sugar*	*Fertilisers*	*Dry Fish*	*Perishables*	*Cement*	*Other Cargo*	*Coal*	*Total Imports*	*Exports*	*Grand Total*
August, 1961 to July, 1962	374,781	151,099	184,175	194,175	16,591	129,572	124,166	673,729	191,302	2,039,480	481,691	2,521,171

II—STATEMENT OF THE CARGOWISE TONNAGE ESTIMATED TO BE HANDLED AT THE PORT OF COLOMBO FOR THE PERIOD AUGUST, 1962/JULY 1963, AND AUGUST, 1963/JULY 1964

August, 1962 to July, 1963	400,000	166,208	196,949	213,592	18,250	136,050	136,582	640,042	200,000	2,107,673	515,409	2,623,082
August, 1963 to July, 1964	426,800	182,828	210,735	234,951	20,075	142,851	150,240	608,039	200,000	2,176,519	551,487	2,728,006

(*d*)—POSTAL AND TELECOMMUNICATION TRAFFIC STATISTICS, APPROXIMATE FOR 1961–62 AND ESTIMATED FOR 1962–63 AND 1963–64

	1961-62 (*Approximate Number*)	1962-63 (*Estimated*)	1963-64 (*Estimated*)
Letters	231·3 million	235 million	239 million
Post cards	48 ,,	51 ,,	54 ,,
Printed matter	24·7 ,,	25 ,,	26 ,,
Newspapers	14·7 ,,	16 ,,	18 ,,
Parcels	2·65 ,,	2·7 ,,	2·7 ,,
Money Orders	3·76 ,,	3·8 ,,	3·84 ,,
Postal Orders	1·8 ,,	1·9 ,,	2 ,,
Telegrams, Inland and Foreign	4.9 ,,	5 ,,	5 ,,
Telephones, direct Exchange connections total number	23,300	25,300	27,300
Colombo only included in the above figures	12,300	13,800	15,300
Savings Certificates Issued Value	Rs. 6.8 million	Rs. 6.7 million	Rs. 6.6 million
Savings Certificates Discharge Value	Rs. 4.3 ,,	Rs. 4.7 ,,	Rs. 4.9 ,,
Savings Bank Deposits	Rs. 100 ,,	Rs. 99 ,,	Rs. 98 ,,
Savings Bank withdrawals	Rs. 97 ,,	Rs. 97 ,,	Rs. 97 ,,
Amount to credit of depositors	Rs. 354 ,,	Rs. 357 ,,	Rs. 358 ,,

CHAPTER 21

CONSTRUCTION

Construction is considered here in a 'functional' sense and not as a sector covering the actual production programmes of the various materials like cement, bricks, tiles, etc. These programmes are covered by the sections dealing with industries. Since any changes in the constructional activity vitally affect all other sectors, it is necessary to ensure that the capacity of the constructional industry is sufficient to meet the requirements. This will depend in part, on the supply of raw materials and skills being adequate. An attempt has been made in this section.

(*a*) to assess the expected requirements of constructional raw materials over the next three years, and to relate them to the appropriate production programmes;

(*b*) to indicate ways and means of overcoming the difficulties involved in the expansion of the constructional industry in relation to the projected investment figures; and

(c) to assess the skills required by this industry over the three year period.

Materials

No detailed statistics are available of the current requirement and production of constructional materials. In 1960, certain minimum estimates of requirement were prepared by the Sectoral Committee on Construction. These estimates were prepared on the basis of the information supplied by a number of government departments and public corporations. As a result the estimates could be used to assess the needs of the public sector only. The same estimate have been used to prepare the present ones. Attempts have, however, been made to include figures relating to the private sector also. These figures were not available for the earlier estimates, nor are they fully available for the present one. The present estimates, should, therefore, be regarded as only a first approximation.

The estimated requirements are as follows:

Material	*1961–62*	*1962–63*	*1963–64*
Cement ('000 tons)	296	306	319
Bricks (millions) [1]	1,048	1,190	1,332
Tiles (millions)	59·4	62·1	64·8
Asbestos (tons)	19,640	20,674	21,715
Concrete pipes ('000 ft.) [1]	333·6	335·6	337·6
Metal ('000 cubes) [1]	257	269	281
Iron and steel ('000 cwts.)	976	989	989
Timber (m. cu. ft.) [2]	8·2	8·5	8·8

[1] The figures for 1961–62 and 1962–63 are the estimates made by the sectoral Committee on Construction in 1960. The figures for 1963–64 were obtained by assuming that the increase in 1963–64 over 1962–63 would be equal to the increase in 1962–63 over 1961–62.

[2] Includes tea chests and certain other non-constructional items. Excludes firewood.

Cement

Local production in 1960-61 was 81,000 tons as compared with the requirement of 282,000 tons. The Ceylon Cement Corporation expects to produce about 275,000 tons by 1963-64 from Kankesanturai and Galle projects. The estimated requirements in 1963-64 are about 319,000 tons.

Bricks

As mentioned in the footnote to the above Table, the figures given here are based on the estimates of the Sectoral Committee on Construction. The entire requirements are met locally at present. Hence local production must at least equal the minimum figures of requirement given in the Table.

It has been observed that although the local industry is able to meet the demand, the quality of bricks supplied is at times very poor. This is evidence not only of the primitive productive organisation obtaining at present, but of demand pressure as well. During periods of peak demand bricks are taken off sites before full drying. Possible remedies are now being considered and action will soon be taken to effect on improvement in the quality. The brick and tile factory programme undertaken by the Small Industries Corporation will help meet this problem in addition to increasing the supply. The Department of Rural Development and Cottage Industries expects to put through a programme of improved practices in the small scale field.

Tiles

Local Products in 1960-61 was in the region of 32 million tiles, compared with a requirement of about 58 million. The requirement is thus nearly double the actual production. But the local supply position will improve when the brick and tile factory comes into production. The production of tiles[1] from the proposed factory has been estimated as 1,500,000 and 6,750,000 for the years 1962-63 and 1963-64.

Asbestos

There was a slight shortage in the supply of asbestos in the recent past. It is expected that with full utilization shortly of capacity, the local industry will be able to meet the demand adequately. It would appear, however, that maintenance of quality has not been uniform. The proposal to set up a Bureau of standards under the Ministry of Industries, would assist in instances of this nature.

Concrete Pipes

The entire requirement is now met by the local industry and there are no problems of special importance to mention here.

Metal, Gravel and Sand

Here again local materials are sufficient to meet the demand.

Iron and Steel

This item is fully imported at the moment and will continue to be so for some time, *i.e.* till the Iron and Steel Factory comes into production, to meet part of the requirements.

Timber

This is considered one of the major bottlenecks in the construction industry with a record particularly in long delivery dates, low quality of product and persistent shortages. The timber requirements for the years 1961-62, 1962-63, and 1963-64 have been estimated at 8.2, 8.5 and 8.8 million cubic feet, respectively. These estimates include the requirements of tea chests, furniture and a few similar items but exclude firewood requirements. The local production for 1961-62, 1962-63 and 1963-64 has been estimated as 7.0, 8.5 and 9.0 cu. ft. respectively. [2] The annual production by the Forest Department averaged between 3.0 and 4.0 million cubic feet during the past six or seven years.

The local supply is expected to be obtained from the following sources :—

(*a*) 3,000,000 acres of salvage areas, of which 150,000 acres are to be felled every year ;

(*b*) 500,000 acres in the wet zone of which 200,000 acres only are productive but partly inaccessible ;

---

[1] *Source :* Small Industries Corporation.

[2] This includes production from local private sources which has been estimated as 1,000,000 cu. ft. per year. The estimate of production from the government sources have been supplied by the Forest Department.

(c) 35,000 acres per year in the dry zone ;
(d) 36,000 acres of plantation ; and
(e) about 1,000,000 cu. ft. from private sources.

Government Stores

All constructional materials (except timber) are obtained for the public sector (except the corporations) through a central organisation, namely the Government Stores. The physical capacity and the administrative organisation of this department therefore becomes very important. Certain possible ways of reorganising this department to facilitate and speed up procurement and delivery procedures are under consideration.

General observations

It will be seen that in the case of most items there are difficulties of supply which are being met by suitable production programmes. In the meantime, for items such as cement, tiles, iron and steel and timber, imports would be necessary to ensure the targeted construction programmes. While total supply may thus be assured, actual construction work in the context of an expanding economy can experience major bottlenecks through faulty organisation and mistiming of supplies of crucial constructional materials. This point has indeed been emphasised by some implementing agencies, for example in iron and steel and power sectors. In fact, it has been recognised in varying degrees in most building works as well.

Constructional Industry

The estimated investment in the constructional sector for the years 1961-62, 1962-63 and 1963-64 is as follows :—

	(*Rs. Million*)		
	1961–62	*1962–63*	*1963–64*
Estimates [1]	19·92	17·62	20·98

The total expenditures on constructional works for the years 1961/62, 1962-63 and 1963-64 have been estimated at Rs. 539.05, Rs. 577.16 and Rs. 616.27 million respectively.[1]

The contribution to the national product from the construction sector has been estimated as 343.77, 367.68 and 392.60 million rupees for the years 1961-62, 1962-63 and 1963-64 respectively.

---

[1] The estimates have been obtained by adding up the figures from the various sectors in the case of the public sector and by certain trend extrapolations in the case of private sector.

The capital/output ratio and the capital/employment ratio as now worked out are as follows:—

	Capital/Output Ratio	*Capital/employment Ratio*
Estimates	0·82 : 1	1,564 : 1

The capital/employment ratio worked out from the Ten-Year Plan data has been assumed in working out the present employment figures.

Constructional activities have so far been undertaken by the following types of contractors and institutions:—

(1) Local small and medium contractors who generally do not compete for works of more than about Rs. 500,000 ;

(2) Large local firms and foreign firms established in Ceylon ;

(3) Government Departments like Public Works Department, Irrigation Department and Telecommunication Department ; and

(4) Foreign contractors.

In the case of the small works there are no problems worth special mention relating to capacity as such. In the case of large works however, local firms are handicapped by lack of finance, sufficient skills, and adequate machinery and equipment.

Some of the chief remedies under examination are given later in this section.

The public sector

Constructional activities in the public sector have been mainly handled by the Public Works Department and the Irrigation Department. Certain other departments like Health and Education Departments also have their own building divisions.

Most of the building work in the Public Works Department is carried out on contract basis. As far as the Public Works Department is concerned the main bottleneck has been the inadequacy of the staff for the preparation of designs and estimates. The position can be improved somewhat by relieving technical officers of their administrative and other non-technical duties so that they can devote more time to jobs of a technical nature.

In the past there were many instances where the provision for building works was made under the votes of the user department, whereas the building works were actually done by the Public Works Department. Thus unnecessary delays were experienced in the release of funds for payment.

Action has already been taken this year to make a start by including provisions under the Public Works Department votes where the work is to be done by the Public Works Department. This process of centralisation of budget provision for building work will be continued in the 1962-63 to make the coverage more complete.

The volume of constructional work in the public sector has increased considerably but the number of suitable contractors available to carry out the works (especially large ones) has not increased very much.

Some of the remedies under consideration to obtain better performances both in the private and public sectors are as follows:—

(i) encouragement of foreign firms to set up Rupee Companies, either by themselves or in association with local firms. Continuity of works should be ensured by the increasing volume of construction activity that is inevitably associated with development ;

(ii) acceptance of security bonds through approved financial institutions and making the security deposits for larger contracts as fixed deposits instead of taking them as percentages of the contracts ;

(iii) provision of adequate safeguards to local contractors against increase in prices and wage fluctuations ;

(iv) arranging early payment for locally produced materials brought to the site, in the same way as is done for imported materials ;

(v) making available more skilled personnel for designing and other skilled jobs, by relieving them of administrative and allied jobs ;

(vi) taking care to include costs of machinery, salaries paid to departmental staff, transport, posts and telecommunication charges, &c., when preparing the estimates of works ;

(vii) setting up adequate high level machinery as a focal point for receiving information on shortages of materials anticipated or experienced in the course of construction on large works, and for taking decisions on the requisite steps to organise the flow of such materials at the required time and place ; and

(viii) taking measures to avoid waste of space by unrealistic designing and waste of funds by inadequate attention to cost norms.

Reduction of costs

Constructional expenditure in the past has been inflated due to the following reasons:—

(*a*) the sizes of buildings, quality and nature of fittings, type of finish, &c., have often been determined without proper analysis of the size and standard of the structures in relation to actual requirements. In many instances structures that were comparatively cheap and small would have served the purpose, or structures of the same size could have been designed to accommodate more users;

(*b*) costs of construction have not been related to a norm available beforehand (such as so many rupees per sq. ft. of area constructed). Little means is therefore available of working towards minimum costing or checking the reasonableness of estimates put up for allocation of funds. The preparation itself of such norms or unit-cost has to be undertaken by careful comparative studies and would also of course be periodically revised for changes in the factors and assumptions affecting a particular unit-cost;

(*c*) works have been budgeted for without the various stages and components of construction being properly checked beforehand for actual performance when that stage was reached and corresponding assets or materials had to be available on site. A system of preparing a check-list as a compulsory annexure to estimate and tender documents would have eliminated unnecessary tying up of funds and the inevitable rise in costs created by bottlenecks after work has started;

(*d*) the construction of a building or a section of it has very often been treated independently of the rest of the programme of which it formed a part, and thereby buildings have been idling after completion due to lack of staff, equipment, &c., or due to non-completion of ancilliary buildings and structures;

(*e*) very often large changes in the designs were introduced after construction work had begun;

(*f*) more expensive multi-storeyed buildings were put up in places where no scarcity of lands existed;

(*g*) in a number of cases the best use could not be made of the money spent due to lack of effective supervision;

(*h*) there has been practically little research work done on the aspects of construction where special problems had to be tackled;

(*i*) the departments in charge of the constructional works have not been doing any detailed cost analysis of works completed to isolate the points responsible for cost increases and render the managerial task of keeping future costs down more effective.

The government is taking necessary steps to cut down wastage in resources. A committee was set up to work out ways and means of reducing buildings costs. The recommendations of this committee are now being examined and action will be taken to obtain best results from government expenditure in this field of activity.

Skills

The additional requirements of constructional skills for the years 1961/62, 1962/63 and 1963/64 have been estimated as follows.[1]

Grade	*1961-62*	*1962-63*	*1963-64*
Engineers			
(1) Civil	112	99	118
(2) Mechanical	11	10	12
(3) Electrical	17	15	18
Technicians			
(1) Engineering Assistants	173	153	182
(2) Foremen	110	97	115
(3) Inspectros	175	155	185
(4) Draughstmen	219	194	231
(5) Survey Assistants	9	8	9
Skilled			
(1) Grade I	1,409	1,246	1,484
(2) Grade II	1,838	1,625	1,935
(3) Semi skilled	2,199	1,945	2,316
(4) Unskilled	6,465	5,719	6,809
Total	12,737	11,266	13,414

(The above Estimates are a first approximation.)

On a preliminary reckoning the annual increment of the workforce to be absorbed by the economy is expected to be in the region of 100,000. The above figures indicate that the employment opportunities could be made available through the construction sector for about 10 per cent of the total number of persons seeking employment. While about half of them are unskilled labourers, it is evident that investment expenditure depends crucially on adequate supply of skilled grades. The ensuring of supply in these grades is therefore vitally linked with the capacity to provide employment to the unskilled as well.

---

[1] The total requirements were obtained by applying a capital/employment ratio worked out from the Ten-Year Plan figures on the estimated investment figures. The breakdown between the different grades was obtained by using the corresponding estimates worked out by the Sectoral Committee on Construction as a basis.

A fairly comprehensive study of the problem was made by a sectoral committee of the Planning Council on construction. On the basis of this study the committee made the following recommendations:—

" TRAINING

Skills in the higher ranks cannot be trained within the next three years. To meet the immediate demand, importing of foreign skills may be the only way out. The cost of importing skills should in practice be arrested development resulting from shortage of skills. The cost of skills is not the cost of what is paid for it, but the amount of additional national output the country would lose by not having requisite skills. When foreign experts are brought in, the training of local talent should be more systematically organised than hitherto.

The committee recommends that the terms of contract be made rigid to that extent, so that the country would obtain permanent benefit. Care should also be taken to see that there is no lop-sidedness in the output of skills. As far as possible skills of the lower ranks should be trained in the area of the proposed constructional work.

To meet the longer term problem the scheme for the training of engineering apprentices and architects as suggested in the proposals for the establishment of the College of Science and Technology by the Ceylon Technical College Department and approved by the Sectoral Committee on Manpower and Skills should be proceeded with as a matter of urgent priority.[1]

It is felt that the need for the middle grades (technicians) such as the junior supervisory grades, draughtsmen, etc., could be met by the expansion to full capacity of the Institute of Practical Technology, which has been opened this year and by the provision of parallel courses where possible in the Junior Technical Schools that are being established in the Provinces.

It is also appreciated that the teaching units would not be able to provide the courses unless the staff required for the purpose is made available and it is strongly recommended that government departments explore the possibility of releasing of a few experienced and qualified officers for service in the Technical College.

---

[1] A five year course of training of architects has already been started at the Institute of Practical Technology, Katubedda in 1961. About 20 trainees are expected to be admitted to this source every year.

The maximum possible number of scholarships for professional training at all levels, should be made available as a matter of top priority. The opportunities offered by all countries ready to assist should be eagerly taken up. The demands of a country like ours are indeed small in relation to the scope for training available in the world. These scholarships should be made available equally to the private and public sectors.

STANDARDS

To obviate wide variations in standards of training for different grades due to such training being undertaken by various agencies the committee recommends the setting up of machinery for the award of national certificates for various grades. The committee also recommends the appointment of a competance commission to go into the question of technical education and training in all its aspects, particularly with a view to evolving an overall plan into which the present individual teaching units could be integrated thereby eliminating the waste of effort and technical manpower occasioned by such individual training scheme.[1]

SALARIES[2]

The salaries paid to technical staff are not adequate to attract capable young men to take to technical studies. The committee recommends that salaries of technical staff should be made more attractive. It is necessary that local technical officers should be paid salaries higher than administrative grades . . . . . " (Report of the Sectoral Committee on Construction 1960, pp. 18-19).

As may be seen, Government has already taken certain steps in this field. It is proposed to give further attention to the subject in the period of the programme in a manner designed to place the supply side of skills on a sound footing.

---

[1] A Technical Education Commission has been appointed in 1961 with this subject as one of its terms of reference.

[2] The Report of the Salaries and Cadre Commission published in 1961 deals with this subject.

CHAPTER 22

TOURISM

The Tourist Industry in Ceylon has a very important role to play in any development programme. Unlike most projects where returns from investment will accrue only in the long run, the Tourist Industry, if properly organised and developed, should be able to show substantial short-run returns, and lead to greater foreign exchange earnings.

The post-war history of tourism in Ceylon has been one of delayed growth. While the industry has flourished in countries like India, and Japan, in ours it has ben virtually static. The following Table of tourist exchange earnings in some of these countries as compared with Ceylon bears witness to this fact:

(*Rs. Million*)

	1950	1960
India	42·00	213·00
Japan	43·00	552·00
Ceylon	6·40	8·00

Source : Government Tourist Bureau.

The reasons for this unhappy state of affairs are not far to seek. They stem mainly from the lack of suitable organisational facilities owing to which our efforts to improve tourism has not been geared to appropriate promotional policies. The result have been a misdirection of tourist promotion. There has been a total absence of market research as a prerequisite to promotional expenditure and a deterioration in facilities for tourist accommodation and a general lack of specialisation. The urgent need therefore is for re-organisation.

In recognition of this fact, the Government has decided to establish a 3-tier Tourist Development Organisation modelled on the successful Japanese and Indian Tourist Organisations, for the rapid development of Ceylon's tourist industry. The organisation will consist of—

(*a*) A Tourist Development Council, presided over by the Hon. Prime Minister, which will deal with policy matters and review progress quarterly ;

(*b*) A Planning Committee ; and

(c) Six Consultative Committees to deal with specific subjects, such as Frontier Formalities, Accommodation, Transportation and Tourist Arrangements, Recreational Amenities, Pageantry and Cultural Affairs, Publicity and Travel Promotion.

Given the requisite managerial efficiency and the fillip to tourism, it should be possible, in the immediate future, for the tourist industry to contribute substantially to the development programme.

Having in mind the new structure of the tourist industry, it is now possible to indicate a 3-year programme for its expansion. In the first instance, it should be observed that in order to earn greater foreign exchange from tourism, certain basic steps have to be taken. These include, among others, the extension of the tourist season from 5 to 10 months, or year round as the Caribbean Islands have done and India is doing; the streamlining of existing tourist services to create "visitor satisfaction" and an adequate promotional programme to effectively reach the main tourist markets; and the control of the black market in tourist exchange by stringent legislation which is already under preparation.

The tourist development programme can be divided into two parts. The first part is aimed at overcoming the current under-utilisation of existing tourist plant. It attempts to make better use of existing travel plant and the new investment contemplated consists of additions and improvements to rest-houses, establishment of a hotel school, the development of tourist areas and publicity. The second part consists of hotel construction. Provisoon has been made in this year's estimates for increased expenditure on publicity. The investment costs of the immediate programme will work out to about Rs. 3.0 million. Negotiations are still proceeding with certain foreign firms for the construction of hotels in some of the tourist areas of Ceylon. The hotel construction programme tentatively provides for a doubling of existing accommodation facilities.

Though publicity in the sense of advertisement is, generally speaking, a current cost, in the special case of tourism it is more usefully treated as a capital cost which can be amortised in the succeeding years. On the basis of these investment costs and other information available, the following Table sets out certain relationships to capital employed:

Gestation Period	*Capital/Output Ratio*	*Capital/Foreign Exchange Earnings Ratio*
8 months to 2 years	·13 : 1	·13 : 1

It is evident that Tourism as an investment is a good candidate for funds.

SECTION III

SOCIAL SERVICES

CHAPTER 23

EDUCATION

Since the introduction of free education in October, 1945, there has been a rapid increase in school enrolment. The schoolgoing population which had been 1.0 million[1] in 1957 increased to 2.2 million[1] in 1960. In other words, during the thirteen-year period between 1947 and 1960 the school-going population more than doubled itself.

The rapid increase in school enrolment in recent years is not entirely due to the introduction of free education. There are other causes as well. Certain demographic factors have contributed to the increase in the school-going population. In the first instance, the decline in the death rates which was caused by measures undertaken during the Second World War while birth rates remained more or less constant at traditionally high levels, has resulted in a relative increase in the size of those age groups in the population from which the school-going population is drawn. Besides these, the introduction of free midday meals and the growing availability of schools all over the country have in no small measure helped to increase school enrolment.

According to recent estimates, the number of pupils between the ages of 5 and 14 which is estimated to be 2.0 million in 1961 will increase to about 2.5 million in 1966. This represents an increase of 0.5 million during the five-year period. There is also a fair number of students below the age of five and over fifteen in the schools. When these numbers are taken into account, the total school-going population in Ceylon by 1966 may reach 3.0 million.

In recent years there has been a rapid increase in the number of children in the school-going ages as well as of those attending schools. But not all children of school-going age attend schools. According to available information, the average percentage of non-attending children in the age group 5-14 years between 1950 and 1960 has been 29.3. There has been, however, a marked decrease in the proportion of children not attending schools during the period 1950 and 1960. In 1950 nearly 34 percent of the children within this age group were not going to school. In 1960 this proportion had dropped to 23.8 percent. It can be expected that in the coming years the percentage of non-attendance among children will drop further.

---

[1] This figure includes pupils below the age of 5 years and aged 15 years and over.

In planning an educational programme it is necessary to take account of the present and prospective numbers of children of school-going age. In Ceylon the age structure of the population demands the provision of expanding educational facilities, the child population is increasing rapidly and new schools must be established fast if we are to prevent over-crowding and lowering of standards. The larger the percentage of school-going children in the population, the greater will be the proportion of the national product which has to be spent in order to provide education at a given standard. This problem can be very considerable if the educational standards aimed at are also comparatively high.

In the context of the continued expansion of educational facilities in the country, there is also the need for a re-fashioning of such facilities to suit the requirements of the employment structure. In any society the employment structure takes the form of a pyramid. To take an example in a particular field, say, health, the number of physicians will always be less than the number of attendants. In order to serve this employment structure it becomes necessary to divert children at suitable points to obtain the know-how which goes with each level of a profession. For instance, when we look at another field such as engineering a consideration of scarce resources will demand that a proportion of the children who reach the age of fourteen plus should be diverted by means of vocational guidance to junior technical schools and trade schools to fit them as mechanics, rather than that the community's resources should be wasted in giving them a higher degree of general education than necessary. A smaller proportion of the children who reach the age of sixteen plus may be diverted to institutes of technology to be trained as technicians. As a result, a still smaller proportion will proceed to the University to qualify as engineers.

Such vocational guidance has been introduced by the Department of Education to assist senior pupils and their parents to understand the relationship between the abilities and aptitudes which children possess on the one hand, and the needs of the world of work on the other. Cumulative records of achievement are compulsorily maintained for every school-going child in the Island. Teachers are being trained to give information from these records to both parents and pupils in order to help them plan their educational and vocational future.

In Ceylon today the educational system is still oriented more towards academic education than technical. As a result, there is, and there is likely to be, a serious shortage of adequately trained personnel in practically all skilled trades and at the professional, technical and vocational levels in, many fields. Economic development itself can be impeded by this shortage. The Three Year Development Programme attempts to step up the amount of technical training available at various levels. More emphasis will be placed on this field in the coming years, and the system of education will be re-oriented to meet the needs of balanced social and economic growth.

The Government is constantly aware of the need to re-orient the educational system in this way and has accepted the principle that science and technical education are fundamental to progress. It is for this purpose that a Technical Education Commission has been appointed to examine and review the organisation and facilities now available in Ceylon for providing technical, and commercial education and to make suitable recommendations for the formation of a comprehensive and co-ordinated scheme which will ensure the availability in adequate numbers of trained technical personnel. In the meantime, however, a modest programme of science and vocational training has already been started in the schools with the purpose of providing a basis for the development of 'scientific literacy' required for the gradual training of the technically and scientifically qualified manpower.

The Department of Education has been able gradually to introduce scientific and technical subjects into the curriculum of most schools. In the lower classes gardening for instance, is a compulsory activity for all pupils. This activity is pursued more systematically in the sixth, seventh and eighth standards than in the earlier years. Organised agricultural science teaching for the age group fourteen plus has been initiated in 20 Maha Vidyalayas. Further extension of this programme is envisaged in the development programme. At this level pupils are also taught wood-cum-metal work. The course in wood and metal work which is available in about 200 out of approximately 600 Maha Vidyalayas is not, however, intensive but has been introduced with a view to instilling into the minds of the pupils that the acquisition of manual skills does not imply loss of human dignity or status. Such an education will lead many pupils to manual vocations that are an essential part of the employment structure.

Scientific and technical subjects are also taught to a small proportion of pupils who continue their education after the age of fourteen. This proportion has to be made much larger if resources are not to be wasted in imparting a general type of education to pupils who would then find no avenues of suitable employment. The resulting mis-employment will only tend to create tensions in society when the social aim should be to reduce them.

One important factor that is responsible for the slow progress in the expansion of the science education programme is the lack in numbers of adequately trained teachers in science. To impart education in general science to the age group 11 to 14 years and special science subjects to a proportion of the age group 14 plus, over 2,000 trained science teachers will be needed. The output of trained science teachers both from the

Maharagama Training College and the one in Palaly, amounts to about 120 per year. The proposed science teaching centre and science teachers training college would only produce another 50 teachers a year, so that in all about 170 science teachers wil be trained annually. This number is not sufficient to meet the increasing requirements of science teachers in the various schools. However, every effort is being made with the resources available to increase the output of science teachers as fast as possible.

The development programme attempts to meet in a modest way some of the urgent needs in the field of education. Provision has been made for the construction of schools, additions and improvements to the existing buildings in order to cater to the increasing school population. In the construction of new schools, priority has been given to those areas which at present have inadequate school facilities. Provision has also been made for the extension of facilities for training and increasing the number of middle-grade technicians, engineers, architects, &c., A comprehensive programme of technical education will however, be formulated and implemented once the report of the Technical Education Commission is made available.

The total provision for capital expenditure on education as given in Tables 1 to 4 at the end of this Chapter may appear to be somewhat inadequate to meet the growing needs of education. The Short Term Implementation Programme envisages a total capital investment of Rs. 39.3 million, Rs. 35.7 million and Rs. 36.6 million during the years 1961-62, 1962-63 & 1963-64 respectively. Although these investment outlays may appear modest in relation to the requirements in the field of education, yet they are very much higher in comparison with the investment figures in the years 1958-59, 1959-60 and 1960-61. The total capital investment during these years were Rs. 15.9 million, Rs. 19.6 million and Rs. 23.9 million respectively. At a time when the financial resources of the country are limited, the problem that faces the Government is the judicious allocation of the scarce resources between the demands of the various sectors. The allocation for education will therefore, have to be considered in the light of the overall resources available and the competing demands of the other sectors. Even so the capital expenditures set out are expected to make a sizeable addition to the pupil accommodation already available. Table 5 provides a summary of the additional pupil accommodation during the 3 year period.

This limitation of resources in a period of development can be to some extent overcome by the adoption of new designs in the construction of school buildings. With the government taking over practically all the schools in the Island, the burden of constructing additional schools and effecting additions and improvements to the existing schools has now devolved on the Government. The capital expenditure on construction of school buildings, etc., is therefore bound to increase annually with the recurrent need to provide facilities for an increasing number of school enrolments each year. The question of introducing austerity measures in construction is being examined. This is a matter which is not peculiar to school buildings, but is common to practically all constructional activities. This question is already under investigation and it is the intention of the government to set up norms for future construction.

The extensive use of double sessions in schools can also lead to economy in the school building programme. Double sessions are in existence in a few schools at present. One of the terms of reference to the National Education Commission is to examine the feasibility of starting double sessions in areas where school accommodation is inadequate. This question will be settled after the Commission's recommendations are available.

Table 1

GENERAL EDUCATION

(Rs. '000)

	1958-59 *Actuals*	1959-60 *Actuals*	1960-61 *Actuals*	1961-62 *Estimates*	1962-63 *Estimates*	1963-64 *Estimates*
(1) Construction of permanent buildings for schools and training Colleges, additions and improvements to existing buildings, etc.	12,222	14,912	6,720	3,000	185	
(2) Construction of buildings for Training Colleges	—	—	24	1,600	1,600	
(3) Construction of School Workshops	—	—	26	250	250	
(4) Construction of buildings for training teachers in handicrafts	—	—	—	125	60	
(5) Construction of buildings for school libraries	—	—	—	125	200	
(6) Construction of permanent buildings for schools and additions and improvements to existing school buildings	—	—	821	15,500	14,265	
(7) Construction of Science laboratories	763	1,875	710	1,000	1,000	
(8) Construction of Science Teachers Training College and Science Teaching Centre	—	—	—	350	1,000	
(9) Replacements, extensions to School Buildings	—	—	—	1,050	1,000	
(10) Provision and improvement of playgrounds in schools	—	—	—	150	100	
(11) Construction of agricultural Science units	—	—	—	190	200	
(12) Kandyan Peasantry Rehabilitation School Works (continuation)	—	44	104	100	100	
(13) Kandyan Peasantry Rehabilitation School Works (New)	—	—	—	323	323	
Total	12,985	16,831	8,405	23,763	20,283	20,300

Table 2

UNIVERSITY EDUCATION (Rs. '000)

	1958-59 *Actual*	1959-60 *Actual*	1960-61 *Actual*	1961-62 *Estimates*	1962-63 *Estimates*	1963-64 *Estimates*
(1) Construction of the Faculty of Engineering, University of Ceylon Peradeniya, Stage I	—	—	15	4,000	3,131	
(2) Equipment for Faculty of Engineering	—	—	—	—	1,882	
(3) Equipment for the Second Faculty of Science, University of Ceylon, Peradeniya	—	443	4,000	—	—	
(4) Water Supply Scheme, University of Ceylon, Peradeniya	—	11	1,055	2,500	1,260	
(5) Lands, Buildings and Equipment for the Vidyodaya University of Ceylon	—	—	1,875	1,500	1,500	
(6) Lands, Buildings and Equipment for the Vidyalankara University of Ceylon	—	—	1,875	1,500	1,500	
(7) Buildings for an Isotope Laboratory, University of Ceylon	—	—	265	5	—	
(8) Construction of Administration Block, Faculty of Medicine, University of Ceylon	6	40	48	—	—	
(9) Establishment of Second Medical School at Peradeniya	—	5	3,480	—	1,238	
(10) Expenditure under National Development Reserve	2,417	1,479	1,528	1,500	411	
Total	2,423	1,978	14,141	11,005	10,922	9,700

Table 3

TECHNICAL EDUCATION (Rs. '000)

	1958–59 *Actual*	1959–60 *Actual*	1960–61 *Actual*	1961–62 *Estimates*	1962–63 *Estimates*	1963–64 *Estimates*
(1) Establishment of Junior Technical Schools in the Provinces (continuation works)	36	52	309	850	500	
(2) Construction of Junior Technical School at Galle	—	—	—	—	215	
(3) Construction of Junior Technical School at Kurunegala	—	—	—	—	185	
(4) Construction of Junior Technical School at Dehiwela	—	—	—	—	185	
(5) Trades School	6	—	132	1,500	1,100	
(6) Institute of Practical Technology, Katubedde	—	—	—	100	450	
(7) Furniture and equipment for the New Junior Technical Schools at Badulla and Kegalle and for the I. P. T.	—	—	—	—	228	
(8) Machinery and equipment for Junior Technical Schools at Kandy and Jaffna	—	—	—	155	87	
(9) New buildings for School of Agriculture at Kundasale	1	9	61	35	—	
(10) Establishment of Farm School at Karapincha, Batangala and Marawila	—	503	426	750	225	
(11) Establishment of Fisheries Training Centre	—	—	70	200	15	
Total	43	564	998	3,590	3,190	5,300

Table 4

OTHER EDUCATION

(*Rs.* '000)

	1958–59 Actual	*1959–60 Actual*	*1960–61 Actual*	*1961–62 Estimates*	*1962–63 Estimates*	*1963–64 Estimates*
(1) Additions and improvements to the College of Indigenous Medicine, Stage I	—	—	5	300	500	
(2) Permanent buildings for the School of Co-operation	254	131	29	200	200	
(3) Establishment of Residential School for Boys at Batticaloa	3	43	111	70	1	
(4) Expansion of Co-operative Education Services with particular emphasis on a programme of education for fishermen	—	—	63	68	100	
(5) Grants to local authorities for public libraries	—	—	—	100	200	
(6) Rehabilitation Centres, Sheltered Workshops, &c.	11	39	14	250	250	
(7) Construction of and additions and improvements to Certified Schools, Remand Home and Children's Homes	221	—	169	30	56	
Total	489	213	391	1,018	1,307	1,300
Grand Total of Tables 1, 2, 3 & 4	15,940	19,586	23,935	39,376	35,702	36,600

TABLE 5

EDUCATION—INCREASE IN UNITS OF PUPIL ACCOMMODATION

	1961-62	1962-63	1963-64
General Education	23,000	30,000	37,000
University Education	886*	697	198
Technical Education	100	370	470
Other Education	—	90	180
Total	23,986	31,157	37,848

* Includes 704 external students admitted to the University of Ceylon in 1961-62.

CHAPTER 24

HEALTH

THE development of human resources is complementary to the development of material resources, because the productive capacity of the people depends upon both. When the majority of the people are suffering from ill-health, the energy of the nation is at a low ebb. The development of social welfare services such as health tends to lift the morale of the people and induce greater productivity in work. Hence economic advancement cannot side track social development, the two must advance simultaneously.

In the sphere of curative health, the standards obtaining in the country are fairly high. Free medical facilities short of domiciliary visiting are available to the people. Diseases of an energy-sapping nature such as malaria, typhoid and dysentery have been more or less eradicated, while the fight against tuberculosis, filariasis, leprosy and veneral diseases is being pursued vigorously. Except for very occasional, minor epidemics of virulent influenza, infectious hepatitis, polio, &c., diseases of an epidemiological nature are rare in Ceylon now.

The Island is covered by a wide net work of hospitals and clinics dispensing general and specialised treatment. The Colombo Group of Hospitals which is well staffed with specialists provide the most advanced methods of diagnosis and treatment. There are 11 provincial hospitals which are intended to provide at the outstations similar facilities as are provided by the Colombo Group. Major cases requiring specialist attention are despatched from the outlying district and cottage hospitals to the provincial hospitals, as a result of which very great pressure is exerted on the services provided by these hospitals at all times. Then, there are the Base hospitals which provide essential specialist medical care in areas where provincial hospitals are non-existent or are inadequate to cope with the demand. At present, there are 12 Base hospitals of which two, the Kegalla and Avissawella hospitals, are being rebuilt to cater to the increasing needs of the area. There are also 90 District hospitals providing general medical care and in a few cases even specialist treatment and 13 Cottage hospitals whose range of services are not extensive.

In addition to these institutions, there are special hospitals like the Cancer Institute at Maharagama, Mental hospitals and House of Observation, Leprosy hospitals, Tuberculosis Institutions, &c., to deal with diseases which call for specialist treatment.

The almost phenomenal reduction in the crude death rate from 31.2 in 1921 to 9.1 in 1960, is indicative of the level of efficiency achieved in our health services. Concurrently with the fall in the death rate, the life expectancy of the population at birth has risen to 66 years compared to 32.7 years four decades ago.

Considerable progress has been achieved in the Personal Health Services, too, with the spread of health education, the organisation of maternity and child welfare services and with the fight against malnutrition which is the cause of most diseases. Several maternity and child welfare clinics have been established throughout the Island, while domiciliary care for expectant mothers and infants is also provided by the routine visits of public health nurses and midwives. As a result of the activities in this sphere the maternal mortality rate has been reduced from 20.1 in 1938 to 3.4 in 1960, while the infant mortality rate has been brought down from 140 per 1,000 livebirths in 1945 to 58 per 1,000 livebirths.

In addition to the Western medical system there is also provision for Ayurveda treatment. Indoor Ayurvedic treatment is provided at the Hospital of Indigenous Medicine at Borella, while outdoor treatment is provided at this institution as well as at the clinics set up under the Local Authorities. Ayurveda which was relatively neglected in the past is at present going through a period of revival and a Research Institute has been set up at Nawinna to re-establish the methods of treatment handed down by tradition. An Ayurvedic hospital is also under construction at Anuradhapura, while another is proposed to be established at Dalugama. However, the major contribution of Ayurveda is in the private sector, where nearly 13,000 practitioners about 6,000 of whom are registered render medical services to the people especially in the rural areas.

Despite the achievements recorded by the curative health sector, however, there is still scope for improvement. Acute congestion is a common feature of most of our medical institutions, especially in the Provincial hospitals. At present the bed strength of Government medical institutions is about 31,500 with a ratio of 3.1 beds per 1,000 of the population which is low compared with the ratios in advanced countries. The increasing population together with the increase in the number of people seeking indoor treatment (in the last 10 years in-patients increased by 60 per cent) can make the situtation worse. Measures taken in the present Programme by way of improvements and additions to hospitals are designed to relieve this situation.

Some hospitals are greatly handicapped by the lack of basic amenities like proper water supplies and electricity. Even important provincial hospitals like those at Kandy and Galle experience inconvenience due to the absence of adequate water supplies. However, measures are being taken to rectify these defects on a priority basis, as fast as the funds permit. The 1962-63 budget makes provision for the installation of water supply schemes in those hospitals where conditions are really acute, like those at Kandy, Badulla and Batticaloa. In time it is intended to equip all hospitals, starting with the major institutions, with clean and adequate water supplies, sewerage and lighting facilities.

Also, there has been an absence of effective co-ordination between integral parts of the same programme, such as between the completion of a building and the arrival of equipment. There have been several instances of new hospitals, built to relieve congestion in existing ones, lying vacant for considerable lengths of time due to delays in obtaining equipment. There also have been instances of equipment arriving far in advance of building operations. Due to haphazard storage, they become unusable by the time the building is ready. To eliminate such waste, measures are being taken to introduce co-ordination between the various stages of projects.

The greatest single restraining factor in the development of the Curative Health Services is the acute shortage of medical and para-medical personnel. Most medical institutions are severely understaffed causing grave inconvenience to patients. The Personal Health Service is also seriously handicapped in its working due to the shortage of personnel, especially doctors. At present there are 1,352 doctors, 1,153 Apothecaries and about 3,000 nurses in Government service.

The existing medical facilities could be consolidated to provide a more efficient and broad based service by merely increasing the medical personnel. Although the Medical College increased the intake of students and a Second Medical College has been established at Peradeniya, an adequate increase of doctors would not be forthcoming for about 5 to 6 years. As regards Ayurveda the situation is relatively worse because Ayurvedic teaching facilities are very limited. In addition to the College of Indigenous Medicine there are only three other teaching institutions for Ayurveda. The total out-turn of practitioners from all these institutions is less than 70 per year. What is more, most of the Ayurvedic practitioners belong to the higher age group as a result of which the annual rate of wastage among them is as high as 4 percent. As the present out-turn of qualified practitioners is less than 1/6th of the annual wastage there is likely to be a dearth of qualified Ayurvedic practitioners. To prevent such an eventuality provision is being made in the next budget to expand Ayurvedic teaching facilities.

While fairly high standards have been achieved in the field of curative health due to several years of heavy spending, preventive health services are still in a rather undeveloped state. Nearly 35 percent of all diseases in the Island and about 1/5 of the diseases which receive indoor treatment in Government medical institutions have their origin in poor environmental sanitation. Unhygienic conditions are largely responsible for diseases such as filaria, polio, typhoid and hepatitis.

In Ceylon many people are inconvenienced by the lack of a clean water supply. Only major towns are served with pipe-borne water supplies, and that, too, is not available to all residents. In rural areas people obtain their drinking water from such sources as unprotected wells, rivers, streams, water holes &c.

The situation as regards sewerage and surface drainage in built up areas is less developed. The water carriage system of sewerage disposal exists only in Colombo, and that too, is available only to 60 percent of the houses. Sanitary facilities are totally lacking in the congested areas of Colombo with the result that these areas are breeding ground of disease germs.

The importance of preventive health has come to be increasingly recognised in recent years. It has also come to be recognised that by improving preventive health the congestion in hospitals could be considerably reduced as about 19 percent of the patients seeking indoor treatment suffer from preventible diseases. The establishment of a separate water supply and drainage department to handle water supply schemes is an index to the Government's recognition of the importance of preventive health.

The expenditure on health services has increased rapidly over the last decade or so. The recurrent expenses of the Health Department have registered a rise from Rs. 69.5 million in 1951 to Rs. 151.7 million in 1962. Capital expenditure on health works has also been increasing although it is yet below desired levels.

Table 1 below shows the capital expenditure on curative health services, for the years 1958-59 to 1963-64.

Table 1

CURATIVE HEALTH

(Rs. million)

	Actual 58-59	*Acutal* 59-60	*Actual* 60-61	*Estimate* 61-62	*Estimate* 62-63	*Estimate* 63-64
Capital Expenditure on curative health	6·4	9·0	8·3	19·0	19·1	19·6

It is seen from the table that the expenditure on curative health works in the years 1958-59, 1959-60 and 1960-61 was rather low. However, efforts are being made to eliminate the inordinate delays and other obstacles responsible for the shortfall in investment. In 1962-63 it is proposed to invest a sum of Rs. 19.1 million on capital works on curative health. Of this Rs. 4.47 million is for the purchase of equipment and transport and Rs. 0.93 million for the provision of water supply and sewerage facilities in health institutions.

In the field of preventive health too, capital investment has been rising in recent years as is indicated in table 2—

Table 2

PREVENTIVE HEALTH

(*Rs. million*)

	Actual 59-60	*Actual 60-61*	*Estimate 61-62*	*Estimate 62-63*	*Estimate 63-64*
Capital expenditure on preventive health	4·0	4·3	14·9	16·0	17·0

A separate Department to handle water supply and sewerage schemes was set up to quicken the pace of investment on preventive health. In 1962-63 it is intended to invest Rs. 14.8 million in water supply schemes and Rs. 1.0 million in sewerage and drainage schemes and in 1963-64 it is proposed to invest Rs. 17.0 million in water supply, sewerage and drainage schemes. The details of investment in curative and preventive health are given in Table 3 and 4 respectively. The additions to the total bed strength during the 3 year period as a result of the programme of development in curative health services is shown in Table 5. Table 6 indicates the increased volume of potable water becoming available as a result of the expansion of water supply schemes.

Table 3

CAPITAL OUTLAYS ON CURATIVE HEALTH

(*Rs. '000*)

Curative Health	*Actual 59-60*	*Actual 60-61*	*Estimate 61-62*	*Estimate 62-63*	*Estimate 63-64*
(*a*) *Department of Health*					
(1) Extensions to hospitals including new wards, provision of additional beds and special hospitals	7,176	5,627	14,673	13,012	13,012
(2) Water Supply and electricity for health institutions	727	857	1,701	935	935
(3) Equipment and transport	1,132	1,656	1,884	4,474	4,474
Total Health Department	9,035	8,140	18,258	18,421	18,421
(*b*) *Department of Indigenous Medicine*					
(4) Expansion of Ayurvedic Medical facilities	021	076	750	650	1,150
(5) Equipment for Ayurvedic Institutions	063	053	050	060	060
Total Department of Indigenous Medicine	084	129	800	710	1,210
Total Curative health	9,119	8,269	19,058	19,131	19,631

Table 4

CAPITAL OUTLAYS ON PREVENTIVE HEALTH

(*Rs.* '000)

	1959–60 *Actual*	1960–61 *Actual*	1961–62 *Estimates*	1962–63 *Estimates*	1963–64 *Estimates*
(1) Water Supply Schemes (including additions and improvements to existing schemes and rural water works	3,891	4,265	13,179	14,758	15,758
(2) Sewerage and drainage schemes	64	18	1,595	995	995
(3) Construction of buildings for Water Works Department and purchase of plant	—	—	105	230	230
Total Preventive Health	3,955	4,283	14,879	15,983	16,983
Total Capital outlay on Health	13,074	12,552	33,937	35,114	36,614

Table 5

CURATIVE HEALTH—INCREASE IN BED STRENGTH

	1961-62	1962-63	1963-64
Department of Health	200	407	656
Department of Indigenous Medicine	—	50	50
Total	200	457	706

Table 6

PREVENTIVE HEALTH — INCREASE IN GALLONS OF WATER PER DAY

	1961-62	1962-63	1963-64
Water Supply Schemes	15,600,000	1,070,000	2,765,000
Total	15,600,000	1,070,000	2,765,000

CHAPTER 25

HOUSING

THE Ten-Year Plan estimated the backlog on housing in 1957 at 172,000 dwelling units, the increase in housing needs during the period 1957 to 1968, at 693,000 and the replacement needs during the same period at 87,000. Hence in order to satisfy all housing needs during the Plan period, the Plan stipulated that it would be necessary to build 952,000 houses. Of these 287,000 were estimated to be in urban areas and 665,000 in rural areas.

The figures indicate the magnitude of the housing problem confronting the country and highlight the imperative need to accelerate the building of dwelling units if the existing backlog is to be cleared and the increasing need be met. The problem of housing manifests itself in the most acute form in the emergence of slums, chiefly in urban centres. According to a report prepared by the Department of Town and Country Planning, there are about 70,000 shanty dwellers in Colombo in addition to about 240,000 residents in substandard houses. Taking 5.3 persons to a dwelling unit, as a measure of housing needs, to house these 310,000 persons in Colombo alone would require about 58,000 dwelling units. The residents living in substandard houses now occupy about 600 acres. The gross density thus works out at 400 persons per acre. By accepted standards these densities are too high, and the extent of congestion and insanitary living now prevalent in these areas can be easily gauged by the fact that this gross density per acre has been reached without the aid of multistorey flats. The provision of this number of houses to meet the demands of dwellers in shanties and slums in Colombo alone is itself a formidable task. In rural areas also there exist a good number of substandard dwelling units though no precise information is available in this regard.

It will be seen that, investment in housing in the public sector has not been high. Information regarding housing in the private sector is inadequate. From the scattered evidence that could be pieced together it appears that the private sector has done relatively better. But the number of dwelling units constructed annually has not increased pari passu with the increase of investment. This may be due to the rising cost of building and/or to relative concentration of investment on larger buildings.

The Departments of Government that are chiefly engaged in providing houses are the Department of National Housing, which is responsible for measures to solve the general housing problem, the Land Commissioner's Department, the Land Development Department and the Gal Oya Development Board, whose investment outlays in housing, though considerable, are tied to, and largely determined by, their general development programmes. The housing programme of the Department of Local Government is designed mainly to provide better living accommodation to the slum and shanty dwellers. There are, in addition, a number of other Government Departments, which provide housing on a minor scale, particularly to their own officers and workers. While stepping up housing investment in the last year of the Implementation Programme, by means of foreign aid, the Government is also considering the establishment of a factory which will produce standard building components. Such a venture will make it possible to set up dwelling units faster than hitherto.

Many departments of government and government sponsored corporation are providing house construction facilities. The question of ensuring better co-ordination of their policies is being considered with a view to getting the optimum value from the resources available.

Ways and means are being considered by which waste can be avoided in the construction of houses. It is also intended that a part of the cost of the houses in rural areas be met by self-help. But if care is not exercised, the attempt to save on costs of construction may lead to jerry-building and the building of houses with high maintenance costs. To achieve success in this field, research is one of the most essential prerequisities. Some European countries have set up institutions for conducting research in this field, and plans are afoot in many countries in the South East Asian Region for establishing similar institutions. Ceylon can derive benefits from the research conducted by them. But the results obtained in other countries may not be wholly applicable to the particular conditions obtaining in Ceylon. In any case they may not form an adequate basis on which to formulate a comprehensive programme for provision of low-cost houses involving considerable investment outlay. In order to evolve a scientific system of building standards and techniques that are most suitable to the particular conditions in Ceylon, local research should also be organised. Indeed, some research in this field has been conducted by the Public Works Department and by some other departments like the Department of Town and Country Planning and the Department of National Housing. Such research has already led to valuable results in this field. All these departments, however, are too pre-occupied in other tasks to devote attention to research in low-cost housing techniques. Concentrated research in this direction is essential not only in respect of dwelling units but also of other buildings. The question of establishing a building research centre is under consideration. The use of prefabricated standard components in building, the increased use of new types of locally available and less expensive building materials, devising ways of improving the quality of rural houses without involving corresponding increase in their costs, making of periodical reviews of the prevailing building standards and the drafting of a system of standard plans that could be utilised in constructing houses for persons at various income levels are some of the subjects on which research can profitably be pursued. With the present scarcity of building materials, skills and financial resources, building research should constitute an integral part of any comprehensive housing development programme. Provision of an adequate number of dwelling units is essential, for without adequate shelter, of the required hygienic standards, the health, efficiency and morale of the people are bound to suffer. This would in turn tend to retard the rate of economic growth.

Table 1 sets out the investment magnitude, actual or estimated, in the public sector for the years 1958-59 to 1963-64, broken down by the three major departments and groups of departments engaged in housing activity. Apart from the recurrent issue of loans to private individuals annually for building houses, there are major housing schemes appearing in the present Implementation Programme. They are together expected to provide approximately 4,700 dwelling units.

Table 1

(*Rs. million*)

	Actuals 1958–59	*Actuals 1959–60*	*Actuals 1960–61*	*Estimates 1961–62*	*Estimates 1962–63*	*Programme 1963–64*
(*a*) Department of National Housing	16·715	15·009	14·861	20·000	23·070	24·500
(*b*) *Development Departments*						
Galoya Development Board	6·965	2·887	4·895	4·624	2·328	1·794
Department of Land Commissioner	6·601	6·320	7·593	7·950	6·985	6·500
Department of Irrigation	·939	1·104	2·135	·788	·400	·350
Department of Land Development	8·416	4·642	7·489	10·982	11·500	18·893
Department of Agriculture	·034	—	·073	1·450	1·922	1·580
Department of Fisheries	·916	·912	·456	1·000	·750	1·300
Total	23·871	15·865	22·641	26·794	23·885	30·417
(*c*) Other Departments	5·180	5·809	5·694	8·226	6·700	4·403
Grand Total	45·766	36·683	43·196	55·020	53·655	59·320

PART FOUR

RECOMMENDATIONS

1. GENERAL

(Relevant to All or Several Ministries)

1. General Policy Implications

The need for the maximum contribution of both the public and the private sectors towards economic development has certain policy implications. It requires :—

(i) that the government clearly defines the essential fields of production it wishes to reserve for itself. (This has already been done) ;

(ii) that, once a policy of the Government has been defined, it should be maintained for a reasonable time ;

(iii) that policies of government in respect of various aspects of economic development should be consistent with one another ;

(iv) that public enterprise be efficient ; otherwise, because of its capital-intensive nature, it will become a burden on the economy and retard its growth ;

(v) that the government administrative machinery should be efficient ,

(vi) that a favourable 'investment climate' be fostered through tax incentives, import control, etc.

(vii) that small-scale private enterprise, *e.g.* small-scale farming, fishing, small-scale industry should be effectively assisted through extension services, credit and marketing facilities.

2. Public Corporations

(i) *Greater autonomy.*—In order to become efficient and successful the management of public corporations should be able to take prompt decisions and to act in a business-like manner.

(ii) *The need for rules.*—The above does not imply that the public corporations should have complete independence. There would have to be rules governing appointments, salaries and wages, labour relations, price procurement and financial regulations etc. There should also be an official nominated by the Minister of Finance, who will act as a financial adviser to the Board of Directors.

(iii) *Responsibility of the Management.*—Managements should not be challenged on individual issues but should be held responsible for the overall results. If a managing director fails after having been given a fair chance, he would have to be replaced.

(iv) *Parliamentary control.*—The government intends to have a select Committee of Parliament to receive the Annual Reports and Accounts submitted by the various corporations and to review the broader aspects of each corporation's work with a view to assessing how effectively the corporation concerned had carried out the functions for which it was set up. The Committee would submit an annual report to Parliament on its examination of the work of each corporation.

(v) *Auditing.*—The accounts of every public corporation will be audited either by the Auditor-General or by a firm of commercial auditors selected by the Auditor-General who will have the right to check the report of the firm and call for any information required.

3. Organisation for securing public co-operation

It is the intention of the government to establish an organisation to secure public co-operation in a systematic manner.

It is intended to appoint in each Ministry or department concerned with economic development an advisory committee of representatives from both the public and the private sector. It would be of advantage also to have in each such committee a representative of the Department of National Planning.

In local government organisations too it is intended to establish similar committees consisting of officials and representatives of the local people to discuss and review schemes for the development of their own districts.

It is very necessary to give wide publicity to subjects related to the government's economic development programmes through the radio, film, press, and school books.

4. Devices needed to get things done

(*a*) *Participation of the people*—The active participation of the people in the implementation of the Programme is an imperative device for this purpose. It should operate everywhere in the country and induce people to take action which furthers ecnomic development. The necessary liaison should be established between the Department of National Planning and the various Ministerial Planning Committees with regard to the public sector, and advisory committees in the various fields and at various levels should be established with regard to the private sector.

4. (b) *Discipline*—There is a need for great discipline. This has implications for both the public and the private sector.

(i) *The public sector.*—In the first place clear and realistic targets in respect of projects, programmes and policies requiring a high degree of performance have to be set.

Furthermore the government intends to elaborate a system of performance budgetting implying the establishment of certain financial norms (e.g. investment cost per mile of road, investment cost of a certain type of house etc,.) This will take a number of years to be elaborated fully.

The performance of departments, public corporations, etc, should be in accordance with the requirements of the targets. Departments will be given greater opportunities for speedy action by simplyfying financial regulations. Measures have also been initiated to improve organisation and methods, to eliminate bottlenecks and so on.

The Government is also considering to give certain preponderantly technical departments a position similar to that of public corporations.

Furthermore, there has to be a simple but effective system of progress control on broad issues within the Cabinet and the Ministries. Next year government will report to Parliament on the progress made with regard to the targets.

Those who are responsible will have to give an account if the progress made is inadequate. They may have to be transferred and replaced by others.

(ii) *The private sector.*—In general, the private sector has a similar approach to discipline. Wherever the methods used to maintain discipline are fair, the government will give its support.

5. Administrative cadres

The administrative cadres are to be reorganised within the frame-work of a Unified Administrative Service geared to the needs of the economy.

6. Planning machinery

Planning at all levels i.e. national, ministerial, departmental and rural levels is essential in order to promote—

—proper thinking in a development context ;

—realistic preparation of investment schedules ; and,

—adequate implementation.

These have been met partly and are proposed to be further met by necessary provision where gaps exist.

7. Rural Development

(i) Rural development should be looked upon as the responsibility of all Departments connected with rural life rather than, as hitherto, of a single Department, viz., the Rural Development Department.

(ii) It should be regarded as covering all aspects of rural life and all officers working in the rural areas should regard themselves as development officers.

(iii) The principle of self-help should be extended to cover all aspects of rural life which directly or indirectly contribute to the growth of the rural economy.

(iv) Villagers must be helped to realise that rural development is primarily their concern while the administrative officers should realise that their main business is to help guide villagers and extend to them the technical and financial aid which the Government provides. For this change of roles to be effective, village workers should receive adequate training and the administrative officers the appropriate orientation.

(v) Local institutions at all levels from the village to the district should be strengthened and developed and their functions and activities co-ordinated. There should also be co-ordination of measures and policies of the various Ministries and Departments in relation to rural development.

(vi) In the Village Councils and Co-orperative Societies in the rural areas, greater attention should be paid to organising development. In order to remove existing deficiencies and obstacles in the way of this orientation, it is necessary to extend the powers and enlarge the resources of local bodies and also co-ordinate the activities of various rural institutions and organise them for local planning.

(vii) As meaningful local planning can only take place within the framework of national planning, the former should be geared to national planning.

8. Increasing benefits from investment in physical capital

In the first place, emphasis should be given to using existing productive capacity to the fullest degree through better methods, better organisation, elimination of under-utilisation etc.

In preparing and selecting investment projects and programmes priority should be given to those which comply with as many of the following criteria as possible—

(*a*) significance of the project for economic development;

(*b*) short gestation period or time taken for an investment to come into production;

(*c*) low capital-output ratio at capacity output;

(*d*) low capital investment per worker at capacity output;

(*e*) favourable ratio of foreign exchange savings to investment;

(*f*) favourable profit ratio at capacity output; and

(*g*) social significance of the investment.

A continous process of pre-investment surveys, resources surveys and applied scientific research is required.

The scope for regional cooperation should be taken into account in selecting projects that can be built up on a scale wider than domestic market.

The whole problem of costs of construction and other work undertaken by government is under review.

9. Increasing benefits from investment in human capital

A better use should be made of existing human capital. This implies emphasis on activities which require skills that are readily available, use of skills to the fullest degree, mobilisation of unused labour resources and improvement of existing skills through extension services, training on the job etc.

At the same time, the skills required for the expansion of existing fields of production as well as for new fields of activity have to be provided. Education would have to be re-orientated and vocational guidance given, in order to meet these needs.

10. National Income and Wage Policy

(*a*) Wage Policy should be considered as part of National Income Policy and geared to the needs of economic development.

(*b*) Claims on increments to National Income should be considered in the following order of priority:—

(i) expenditure for development purposes. Workers should be required to subscribe out of an increase in normal wages to National Bonds, Provident Funds etc. to add to the resources for investment.

(ii) creation of employment opportunities for the unemployed ;

(iii) raising sub-standard wages to at least a minimum level ;

(c) A Statutory Triparitite Body for wage revisions should be set up.

11. Foreign Aid

(i) If foreign aid is to contribute to an increase of total investment resources, and to assist in meeting foreign exchange gaps created by foreign costs of development, the potential aid in a project or programme has to be spotted by the Department or Agency concerned well before the stage of project preparation and brought to notice of Government in time, to be explored for negotiation.

(ii) The large sum of negotiated but yet unallocated Aid, highlights the need for a planning approach at different levels.

(iii) The availability of a Short-term Programme is a major factor contributing to the flow of external finance.

(iv) Increase of foreign finance in the private sector should be obtained by—

(a) the initiative of the local private sector ; and

(b) the use of the Industrial Credit Corporation idea through which to channel foreign funds to the private sector.

(v) Maximising aid should depend much more than it has in the past on initiative from this country.

(vi) This approach should apply not only to normal loans, but also to Gifts, Money Grants, Rupee Loans (including Commodity Aid) and finance of local costs entailed in Aid on foreign costs.

(vii) Embassies can play an important part in relating projects to sources of finance, and in enlarging the scope of Aid received.

(viii) There is much more scope for utilising IDA finance on investments that cannot by their nature stand the same test for profitablity that directly productive investments could.

(ix) Obtaining assistance under Aid programmes tied in advance to specific projects whose place in the investment pattern is yet unknown, should generally be avoided.

(x) Purchases from countries having bilateral trade agreements with Ceylon carries dangers of unrealistic costs and should as far as possible be in alignment with priorities set out in the development program.

(xi) The composition of Aid should be such as to reflect increasing proportions being received in industry and agriculture, without of course, reducing the actual volume going to other sectors.

(xii) Aid, as finance, is complementary to net foreign exchange earnings, by the export sector. The maintenance of export levels and export prices, developing new export industries, where possible, import-substitution at a rapid rate, Regional Co-operation, and import control, should all be of continuing concern to foreign aid organisation.

II. AGRICULTURE

A. Export Crops

(1) Replanting of tea lands should not take place on a progressive scale as earlier envisaged, but should be encouraged up to a fixed limit of 4,000 acres annually. New plantings in tea should, on the other hand, be encouraged within limits.

(2) Greater preference should be given to the allocation of lands and funds to the State Plantations Corporation in preference to Highland Colonization Schemes for new plantation of export crops.

(3) Crown Land should be alienated (subject to limits) to the private sector for development in tea and other export crops (excluding rubber).

(4) New planting of rubber should not be encouraged.

(5) It is necessary to broaden the base of our export earnings by diversification, through development of our existing minor export crops, and of new crops for export.

(6) An institution needs to be established for the study of problems pertaining to our minor export crops—such as cinnamon, citronella, nutmeg, cloves, &c. This study should be devoted mainly to:

(*a*) the technical aspects connected with their cultivation.

(*b*) the technical aspects connected with their processing.

(*c*) the technical and administrative aspects connected with the enforcement of quality control.

(*d*) the possibility of expanding existing export markets, and entering new ones.

(7) Cashew cultivation should be undertaken on an extensive scale on the sandy coastal belts where no other crops can now be profitably grown. It is recommended that its plantation be done on the lines of the present "co-operative reforestation scheme" by which forests are planted on chenas.

(8) New crops such as the oil palm should be tried out on the basis of pilot projects.

B. Irrigation and Land Development

I. General

(1) The preponderence of a high proportion of highly capital consuming and long yielding projects to others in the agriculture sector should be reduced by the reduction of investment on the former, and an increase of investment on less capital consuming and quicker yield projects.

(2) The disadvantage of the former type of investment should be reduced by reducing costs, increasing benefits, and better planning and execution of projects.

(3) Early action should be taken for the completion of the land use survey with additional staff being provided so that it will be completed as soon as possible.

(4) Studies of water resources should be under taken—especially a scientific exploration of ground water resources.

(5) A Natural Resources Planning Unit should be established to plan all future land development and colonisation schemes.

(6) A Water Resources Board should be established to plan and co-ordinate the use of water resources.

(7) A Bureau of Agricultural Economics should be established to study the economics of various types of land use and cropping programmes, as well as to undertake economic studies in the field of agriculture. If possible, agricultural economics should be introduced as a special subject in the curriculum for the Economics Degree in one or more of our Universities.

II. *Irrigation Programme*

(1) Advance planning of all irrigation schemes is necessary before construction work is commenced. This involves :

- (*a*) Investigation of irrigation aspects.
- (*b*) Agricultural aspects.
- (c) Economic aspects by the Department of National Planning.

(2) No new irrigation works to be taken up until part of the existing backlog is cleared.

- (*a*) Works which have been approved but on which construction has not been commenced, should be postponed.
- (*b*) Works which are in the early stages of construction and which could be delayed without much loss, should be suspended, and men and materials diverted for the completion of projects in a more advanced stage of construction.
- (c) The postponed works should be considered along with any new works for construction at a later stage having due regard to the need to make an increasing irrigable acreage available annually.

(3) Work on head-works and channel systems should proceed simultaneously so as to enable earlier completion of the entire project.

(4) Beneficiaries should be made to construct, or contribute to the cost of construction of field channels up to a reasonable length. The present practice of providing pipe-outlets to individual paddy lots should be stopped, and water should be provided to blocks of 100 acres or more.

(5) More irrigation construction works should be given out to private contractors so as to accelerate the pace of construction.

(6) The cadre of permanent unskilled labour in the Irrigation Department should be reduced so as to reduce costs and increase the rate of construction of irrigation works.

(7) The Irrigation Department (and possibly other construction departments) should be released from the compulsory requirement of having to give works to Co-operative Societies for construction in all cases where Societies are willing to take up work.

(8) Committees should be appointed in each district to decide on reduction of rates for earth work, concrete work, etc.

(9) Preference should usually be given to augmentation of existing works rather than to construction of new works where the former result in additional crop acres being rendered cultivate.

(10) More attention to be paid to minor irrigation works by the Irrigation Department.

(11) More staff and money should be provided to the Department of Agrarian Services for construction of minor irrigation works (1 Engineer and 30 Technical Assistants to be provided).

(12) Greater attention needs to be paid to lift irrigation from available surface water and from tube-wells. The possibility of introducing windmill irrigation in the dry zone needs to be pursued.

(13) Measures need to be introduced to achieve economy in the use of water by cultivators. This is to be achieved by :

- (*a*) Intensive propaganda drives.
- (*b*) Necessary amendments to the Irrigation Ordinance and Paddy Lands Act.
- (*c*) Strengthening of administration and enforcement of Irrigation rules.
- (*d*) Extension of tractor ploughing, so as to enable dry sowing.
- (*e*) Use of weedicide if possible, to control weeds instead of wasting water for weed-control.

(14) Under future irrigation schemes more economic crops than paddy should be cultivated. Lands under future colonisation schemes shall be alienated specially for cultivation of these more economic crops.

(15) An economic irrigation rate should be charged under all existing and future schemes.

(16) Maintenance obligations of cultivators under village works should be strictly enforced.

III. Land Development Programme

(1) A review of land policy and an evaluation of its results is necessary. This may be undertaken by the Department of National Planning.

(2) The proposed National Resources Planning Unit should be entrusted with the task of planning land use, and all new colonization schemes.

(3) The social service investment in colonisation schemes should be reduced—mainly by reduction in the cost of colonists' houses.

(4) A reduction in the cost of land development should be brought about by reduction of subsidies to colonists for land development.

(5) The policy of 'advanced alienation' should be continued—but on a more planned and co-ordinated basis.

(6) As much as possible of the Department of Land Developments work should be given out on contract—so as to increase the rate of construction and lower costs.

(7) Returns to the national economy from colonisation schemes should be increased by diversification of cultivation. This is to be achieved by:

(*a*) Lift irrigation to existing highland allotments.

(*b*) Laying out future colonisation schemes with irrigated highland allotments.

(8) The output of paddy lands under land development schemes should be increased by intensification of cultivation. Greater attention should be paid to Agricultural Extension Services on colonisation schemes by diversion of more extension staff to these schemes.

(9) A reform of tenure under the Land Development Oridnance should be introduced in line with Land Commission's recommendations.

(10) Financial returns to Government should be ensured from village expansion and colonisation schemes by insisting on repayment of the costs incurred by Government in the development of allotments.

(11) There is a need to find means other than irrigated colonisation for quicker and cheaper land development, with better use of various land classes. A pilot project for capitalist farming on a mechanical basis in the Dry Zone is suggested.

Non-Export Agriculture Sector

C. Institutional Arrangements

(1) A break-through to increased production is intended to be achieved not so much through increased investment as through institutional changes.

(2) *Land Tenure*

(*a*) Amendments to the Paddy Lands Act will be introduced very early. The Act will be made applicable to all districts by February 1963.

(*b*) An evaluation of the working of the Paddy Lands Act will be undertaken with U. N. assistance.

(c) The introduction of legislation for registration of title, and introduction of legislation, and the utilization of existing legislation (under the Paddy Land Act), for bringing about the consolidation of holdings.

(*d*) Allottees under L. D. O. are to be given an outright grant of the land on payment to government of the cost of development of the allotment, in instalments.

(3) *Crop Insurance*

(*a*) The Scheme should be expanded.

(*b*) Premia due will be recovered from cultivators through the G. P. S.

(*c*) The present government subsidy of Rs. 6 per acre will be reduced progressively as more acreages are brought under the scheme.

(4) *Agricultural Credit*

(*a*) All dues from cultivators either by way of share capital or overdue loans, should be recovered through the G. P. S.

(*b*) Suitable action will be taken to provide Co-operative Societies with a lien on the crop of defaulting cultivators. A usufructuary mortgage of the cultivator's land in favour of the Co-operative Society will also be provided for.

(*c*) A certain sum will be set off against the overdue account of each Society out of the commission payable to it for its purchases under the G. P. S.

(*d*) The maximum credit limit of members will be increased to ten times their share capital contribution in areas where double-cropping is possible.

(*e*) To encourage savings, a scheme of saving deposits in Co-operative Societies will be introduced.

(*f*) Changes in organization will be undertaken to achieve greater co-ordination between the Agriculture and Agrarian Services Departments, and the Co-operative Department.

(*g*) A survey will be made to investigate the reasons why cultivators are reluctant to join Co-operative Societies.

(*h*) The People's Bank will be encouraged to enter the field of Agricultural credit without further delay.

(*i*) The Managers or Treasurers of Co-operative Societies will be made responsible for the recovery of loans.

(5) *Agricultural Extension*

(*a*) A committee will inquire into the working and organization of the Agricultural Extension Services.

(*b*) The Extension Service will pay greater attention to extension in colonization schemes.

(c) Extension officers and overseers should work more closely with cultivators. They should be accepted as practical farmers. Their efforts should be diverted not so much to demonstration, as to getting the cultivators to try the new practices on their fields.

(*d*) Attempts will be made to persuade cultivators to adopt common agricultural practices over an entire tract, through the agency of Cultivation Committees.

(*e*) The Extension Services in the field of subsidiary crops and animal husbandry will be strengthened.

(6) *Government Farms*

The functions and activities of all farms will be investigated with a view to closing down uneconomic or inefficient farms, and uneconomic or inefficient activities of all Farms.

D. Crops

I. Paddy

(1) *Increase of crop Acreage*

The extent of new lands to be opened out by Government for paddy cultivation will be limited. Cultivated and harvested acreages however will be increased by:

(*a*) Cultivating existing asweddumised lands which are now not cultivated. A committee should be appointed in each district to investigate the causes of the present non-cultivation.

(*b*) Reclaiming lands which have gone out of production.

(c) Reducing the extent of Salvinia infestation.

(*d*) Increasing the acreage double-cropped.

(*e*) Reducing the extent of crop failure.

(2) *Increase in Yields*

(*a*) The process of multiplying and distributing seed varieties will be accelerated. This will be done by undertaking a survey regarding the present use of improved and certified seed, by providing separate storage facilities for seed paddy, and by providing improved seed to farmers in exchange for consumption paddy.

(*b*) The present fertilizer subsidy of 50 per cent. will be extended to cultivators either through Co-operative Societies or through Cultivation Committees. If the progress made in the extension of fertiliser use under this scheme is, not such as to make a decisive impact on production, it will be necessary to adopt more radical measures to achieve this end.

(*c*) The importation and using of fertilizer will be undertaken by a State Corporation, so as to ensure steady supplies and cheaper prices.

(*d*) The use of insecticides and weedicides will be encouraged.

(3) *Prices and Marketing*

(*a*) All future subsidies will be specific, i.e., contingent on the performance of some specific improvement or practice.

(*b*) The operation of the Guaranteed Price Scheme will be improved so as to ensure for the cultivator, a more effective guaranteed price.

(*c*) Storage accommodation for paddy in the public sector will be increased, so as to enable quicker purchase of cultivators' paddy under the G. P. S.

(*d*) Rice Milling—

(i) All new rice-mills will have to conform to certain improved standards.

(ii) No quotas will be given to millers having obsolete machinery unless they install new machinery in a deficit area.

(iii) New mills will be allowed only in deficit areas. Encouragement will be given to millers to set up new mills by guaranteeing adequate quotas and by granting loans to millers.

(iv) Construction of new mills by government will cease and the co-operative and private sector will be encouraged to invest in this field.

II. Subsidiary Food Crops

(1) Future alienation of land under Government's land development schemes will be mainly for subsidiary crops. Irrigation will be provided for these crops.

(2) Agricultural credit should be provided more effectively through Co-operative Societies for the cultivation of these crops.

(3) Attractive prices need to be ensured for these crops by:

- (*a*) Increasing the guaranteed price for certain crops, e.g., chillies, maize, turmeric, green gram, &c., and introducing a guaranteed price for bombay onions.
- (*b*) Import restrictions.

(4) Marketing arrangements for these crops should be improved by concentration of production in well defined areas to enable proper organization of marketing facilities. Loans should be given to Co-operative Societies for marketing. The commission payable to Co-operatives for purchasing these crops should be increased in particular cases, and the commission payable for paddy, reduced.

(5) An intensification of effort and a concentration of extension services in defined areas for the production of these crops, is required.

(6) The Agriculture Departmet should provide seed material and pest control services in well defined areas for their production.

(7) Import restrictions have been recommended in certain cases, with a view to restraining increases in per capita consumption, e.g., potatoes, dried chillies. &c. In these and other cases, certain restrictions have been recommended with a view to stimulating local production.

(8) In certain cases, import duties have been recommended in preference to import restrictions. In certain cases, these duties are to be in the form of a cess, which will be channelled back to producers by way of increased guaranteed prices in practicable cases.

III. Subsidiary Commercial Crops

SUGAR CANE

(1) A Sugar Cane Research Institute should be established.

(2) The implementation of Stage II of the original sugar cane cultivation programme shall be deferred until available acreages under existing plantations are successfully planted up, and other problems (such as harvesting) fully solved.

E. Animal Husbandry

(1) Tax rebates and exemptions should be given under the Land Tax Act to estates which maintain animals for meat or milk.

(2) Imports of pork products should be restricted with a view to encouraging local production and processing.

(3) The Milk Board should be allowed to purchase milk (even at a loss) for a period of three years or more. This loss should be eliminated by :

- (*a*) Disposal of milk through Milk Feeding Centres.
- (*b*) Establishment of a plant for condensed milk and powered milk production.

(4) A Meat Board should be established for marketing of animals and meat products.

(5) The provisions of the Animals Act should be enforced immediately.

- (*a*) To permit castration of scrub animals.
- (*b*) To prevent slaughter of buffaloes.
- (*c*) To prevent damage to cattle hides.

(6) A cess (or duty) should be imposed on imported eggs. The proceeds of the cess should be used to subsidize poultry food.

(7) Attempts should be made to overcome the present shortage of animal feed by :

- (*a*) Large scale cultivation of grains in the Dry Zone.
- (*b*) Enforcement of standards of good rice milling so as to ensure adequate supplies of rice bran.
- (*c*) Making arrangements for import of required quantity of coarse grains for the next three years only.

(8) Establish a buffalo breeding farm, and prevent slaughter of buffaloes for meat.

F. Forestry

(1) It is necessary to conduct a pre-investment survey of Ceylon's forest resources. This should be done if possible, with U. N. Special Fund assistance.

(2) In view of our present dependence on salvage areas to meet our timber requirements, adequate provision should be made for reforestation so as to meet the country's long term requirements of timber. This should be done as far as possible through the 'Co-operative reforestation scheme'.

(3) It is necessary to increase the supply of Wet Zone softwoods by the Forest Department. This must be accompanied by a corresponding increase in processing capacity for the production of plywood in the public or private sector, with a view to eliminating imports of tea chests, which now constitute more than half our imports of forest products.

G. Fisheries

(1) A comprehensive survey of the operation of mechanised boats would be undertaken immediately with a view to ascertaining the daily catch, methods of fishing, operational costs and net returns ;

(2) The staff of the Loans Branch of the Fisheries Department should be increased in order to effect recoveries and to successfully administer this scheme ;

(3) A more rigorous system should be introduced for seizure and sale of boats due to non-payments of loans instalments ;

(4) A higher down-payment should be insisted upon on boats given out under this scheme ;

(5) The loan scheme should be opened to all classes of persons who are genuinely willing to undertake production. A higher down-payment will however be insisted upon in respect of middle-class persons ;

(6) The People's Bank should be encouraged to give loans against sufficient security for the purchase of these boats by the latter class of persons. The possibility of transferring the function of issue and recovery of loans from the Fisheries Department to the Peoples' Bank will be investigated, in respect of all boats to be issued after 1st October, 1962.

(7) A scheme for standardisation of marine engines under the loan scheme should be introduced in order to facilitate repairs, maintenance, importation of spare parts, &c.

(8) Better repair facilities should be provided for these boats ;

(9) Training classes should be conducted for fishermen in the method of operation repairs and maintenance of these boats and engines. This is already being done.

(10) Improvements should be made to natural fisheries shelters, and construction of new harbours and shelters should be undertaken.

(11) An engineer should be recruited to organise the machine shop to handle repairs and maintenance of trawlers.

(12) Priority should be given for docking and slipping facilities for trawlers.

(13) Provision needs to be included in the Merchant Shipping Act for the issue of certificates for Masters, Mates and Engineers of the fishing boats, to enable the recruitment of necessary staff.

(14) The introduction of a change in the system of payment to trawler crews is required so as to provide an incentive for longer hours of operation. An incentive scheme combining a lower daily wage but with a proportionately higher bonus for increased catches, is necessary.

(15) Foreign technical assistance needs to be sought to hasten completion of designs and construction of fisheries harbours and shelters.

(16) Long-term biological and hydrological surveys of our fisheries resources, and short-term population and migratory studies must be put in hand immediately. The necessary vessels and equipment should be provided to the Research Division of the Fisheries Department for this purpose.

(17) The organisation and procedure for the collection of fisheries statistics must be improved. Adequate statistics must be made available not only of our fisheries resources, but also of daily catches of various types of craft, prices, marketing, etc.

III. INDUSTRY POWER, TRANSPORT & CONSTRUCTION

Public Sector

Investment Pattern

(1) An organisation should be set up under the Prime Minister to direct and co-ordinate all-island surveys of natural and other resources.

(2) A council for applied scientific research should be set up to undertake continuous study of materials utilisation.

(3) The selection of industries for investment should be determined by criteria relevant to development. This method should be applied more strictly than hitherto.

(4) Priority should be given to projects for which materials are available locally or could be produced locally.

(5) Over and under capitalisation in both Public and Private Sectors should be avoided by timely planning.

(6) Before a particular project is decided upon, the economic or diseconomic of operating on a small scale should thoroughly investigated.

(7) As a general principle, investment in new projects should not be undertaken at the expense of further investment in existing projects whose potential has not yet been fully realised.

Investment Performance

(8) The machinery for programming and supervising of implementation should be developed to ensure co-ordination of all measures necessary for timely initiation and completion of projects.

(9) (*a*) Requests for funds for projects should be supported by proper appraisal of their technical, financial and economic aspects.

(*b*) In the case of especially large projects (in fields in which there is inadequate experience in the country) evaluation by foreign consultants should be obtained.

(*c*) Projects should not be tied up in advance under Aid programmes without sufficient appraisal.

(10) The Development Division of the Ministry of Industries should have competent technical staff including Industrial Economists to enable it to discharge its responsibility effectively. Action has already been initiated by the Government in this regard.

Performance on Output

(11) The Planning Division of the Ministry of Industries should pay particular attention to the scope for utilising by-products and developing complementary industries.

(12) The programme of management training should be improved and expanded for the benefit of all managerial cadres.

(13) All corporations should adopt the cost accounting approach, which is basic to efficient operation.

(14) Industrial corporations should pay attention to the marketability of their products and their markets.

(15) (*a*) There is strong need for a Special Committee of Parliament to exercise Parliamentary control over Industrial Corporations.

(*b*) Within the broad frame of Central Control, greater responsibility should be devolved upon the managerial level.

(16) Participation by foreign firms in the financing and management of enterprises in the country should be welcome in appropriate cases.

(17) Programmes for training workers should be improved and expanded. Such programmes should include in-service training.

(18) (*a*) The capital of over-capitalised corporations should be written down and their costs revised correspondingly.

(*b*) A clear distinction should be made between fixed and working capital.

Private Sector Industry

(19) Further steps to improve the nature and value of promotional assistance rendered to the private sector may usefully be reviewed on the basis of the Development Division's experience.

(20) Private sector investment should seek to achieve national objectives.

(21) The Development Division of the Ministry of Industries, the Small Industries Service Institute, the C.I.S.I.R., and the Development Finance Corporation should work in close co-operation to promote small industries and improve their efficiency and credit worthiness.

(22) Holidays, leave and other facilities should be reviewed.

(23) The training programmes mentioned under Item (17) can be supplemented by inviting large firms in the private sector also to undertake such programmes.

(24) Domestic industries which benefit from protection and concessions are expected gradually to increase their efficiency and lower the prices of their products. There should be periodic review of these prices to check whether this is happening or not.

(25) In formulating its trade policy the government should take into account of our export trade. It should assist in the exploration of foreign markets.

Small-Scale and Cottage Industries

(26) The Rural Development and Small-scale and Cottage Industries Department should investigate the prospects and the problems of small-scale and rural industries. The proposed Small Industries Service Institute should be established at the earliest possible date.

(27) The scope for Small industries to manufacture goods needed by large and medium industries should be actively investigated.

(28) In view of the significance of cheap power to the small-scale industries programme, the scope for utilising existing grids and power plants and developing further power resources should be studied.

(29) The decision to switch over from standard handloom production to art lines should be maintained.

Power

(30) In view of a likely shortage of Power by 1965, steps should be taken to remove constructional and other bottle-necks in time. A high level Committee should be set up for this purpose.

(31) In view of the basic importance of power to development, every effort should be made to reduce its cost and ensure continuous supply.

(32) A Water Resources Board should be set up at the earliest possible date.

Transport

(33) A Central Authority to co-ordinate all forms of transport in accordance with the needs of the developing economy should be established. It should see that rates and fares charged by different forms of transport reflect, as far as possible, the costs of the services rendered.

(34) A traffic costing unit should be established in the Railway Department.

(35) A Road Planning Authority to ensure a uniform policy by various authorities who construct and maintain roads should be established.

Construction

(36) Various steps have to be taken jointly by different departments, such as the improvement in brick industry by the Cottage Industries Department, setting up a Standards Bureau by the Ministry of Industries, and the Reforestation Programme by the Forest Department for the fulfilment of the Construction Programme.

(37) Government Stores should be reorganised, so that procurement and delivery of construction materials can be carried out more quickly.

(38) The policy of centralising building votes should be carried through.

(39) Foreign Companies which are prepared to undertake large-scale construction should be given encouragement to set up Rupee Companies by themselves or in association with local firms.

(40) Security Bonds through approved financial institutions should be considered for acceptance and security deposits for larger contracts should be fixed amounts instead of percentages of contracted figures.

(41) Local contractors should be given adequate safeguards against increase of prices and wages.

(42) Early payments should be made possible for locally produced materials brought to site in the same way as is done for imported materials.

(43) Technical officers should as far as possible, be relieved of administrative jobs so that they can devote more time to technical work.

(44) An appropriate high level machinery should be set up as the focal point for receiving information on shortages of materials anticipated or experienced in the course of construction on large works, and for taking decisions to solve them.

(45) Measures should be taken to avoid waste of space resulting from unrealistic designing and waste of funds caused by inadequate attention to cost norms.

(46) Preparation of check list of the various stages and components of the construction work, as an annexure to estimate and tender documents, should be made compulsory so that unnecessary tying up of funds and additions to costs due to bottlenecks are avoided.

(47) More research should be done on aspects of construction which present special problems or in which cost reductions appear possible.

(48) Departments in charge of construction work should do detailed cost analysis of works completed in order to identify points responsible for cost increases and render the managerial task of keeping future costs down more effective.

(49) Every effort should be made to increase the supply of technical personnel by training engineers, architects, &c., by offering scholarships, sending students abroad for training and securing foreign assistance wherever local expertise is not available.

APPENDIX

An explanatory note on some technical terms used

SOME technical terms and phrases occur in this study. They are briefly explained below. Most of these terms and phrases are connected, in one way or another, with the concept of national income which may, therefore, be taken up first.

National Income

There are three ways of computing the national income of a country. Assuming that a country is self-contained, that is, it has no relations with other economies at all its national income is the aggregate of the values of all the goods and services that are produced within it during a period of time, normally the year. (The term national product is often used to denote national income when it is calculated in this manner). However, in arriving at this aggregate, one should avoid double counting. One must not, to use a simple illustration, add the value of cloth to the value of the raw cotton from which it is made. The value of the latter is already included in that of the former and the proper thing to do is to add to the value of the raw cotton simply the value added by the weaver in the process of producing the cloth.

The second method of computing national income is in terms of income rather than product. The cost of production of any commodity or service consists of payments made to various persons who co-operate in producing it. Hence the aggregate value of the goods and services produced by the people, i.e., the national product, is equal to the sum total of the payments made to all the participants. But, looked at from the point of view of the recipients, these payments constitute their incomes. Thus, national income is the aggregate of all incomes received by the people of the country. We have, again, to observe a caution: only those receipts should be included as income which represent payment for some new commodity produced or service rendered. For example, if A gives Rs. 100 to B, out of love or charity, this sum should not be counted as B's income.

There is still a third way of measuring national income. All the goods and services that constitute the national product are assumed to be sold to the people. (Where a person, e.g., a farmer, produces for domestic consumption, he is assumed to sell his produce to himself). Hence, total receipts from, sale or the total value of the national product must be equal to the total expenditure of the people. Thus national expenditure = national product = national income. A further word of caution: only expenditures on "final" goods, i.e., goods which do not enter into the production of other goods during the year, are taken into account. The expenditure on these goods includes the expenditure on all other goods and services that are used in their production.

We have to make two refinements of these definitions of national income. We have stated that goods and services are sold and bought at prices which just pay for their costs of production, including profits. In fact, however, many commodities are taxed by government and some are subsidized. So that the total expenditure is more, or less, than its total cost of production. We have then two estimates of national product; first, on the basis of the costs of production or, to use a technical term, the "factor cast" of the goods and services which constitute the national product (The term "factor" is used for any agent of production, land, labour, capital and enterprise); and, secondly, on the basis of their market prices which include both factor cost and the indirect tax or subsidy by the government. "National product at factor cost" is thus equal to the sum total of rent, wages, interest and profits, while "National product at market prices" is equal to national income at factor cost plus the excess of receipts from indirect taxes over payments for subsidies or minus the excess of the latter over the former. If the Government is regarded as a "person", the national income at market prices would be equal to the income of the people plus or minus the net income or expenditure of the Government on account of indirect taxes and subsidies.

The second refinement is more fundamental. To produce goods and services, it is necessary to use fixed capital, e.g., machines, tools, buildings, etc., and also draw upon stocks of raw materials and semi-finished goods existing at the beginning of the year. At the end of the year the fixed capital is worn out and the stocks reduced, in some degree. But if production is to continue from year to year, the former will have to be kept in running order and replaced after some years and the latter restored to its old level. A part of the income derived from the use of the fixed capital and of the existing stocks has, therefore to be set aside as "depreciation charges" and only the balance of the receipts can be taken as "income" in the strict sense. These considerations have given rise to the distinction between "gross national product" and "net national product", the difference between the two being measured by the total of depreciation charges.

The distinction between 'gross' and 'net' national income is, as we may have perceived, based upon an important division of the national income into two categories of goods and services. The national product consists of a variety of goods and services, some of which are sold to consumers, while others are sold to other producers or retained by the original producers, for use for further production and/or for maintaining or building up stocks. The former are called consumer goods and services and the latter capital goods. Corresponding to this division of the national product, we have the division of the national expenditure into expenditure on consumption and investment. We have, thus, consumption goods and services plus capital goods = gross national product = national expenditure = consumption plus gross investment.

Now, a part of the expenditure on investment is, as we have explained, required to make up for the depreciation of capital goods and the depletion of existing stocks. Only the excess of investment over what is required for this purpose is available for new investment and is described as net investment. We then arrive at the following relationships; the gross national product = net national product plus depreciation = consumption plus net investment plus depreciation. If we now take away depreciation from the last two equalities, we have net national product = consumption plus net investment. Thus, corresponding to gross and net national products, we have gross and net investment.

We have, up to now, assumed that the nation we are considering has no relations with other countries. In fact, however, almost all nations have trading and financial relations with other countries. They buy and sell, and lend and borrow abroad. In calculating the national product of a country which has economic relations with other countries, we have to take into account these transactions. The aggregate value of goods and services produced in the country is now divisible into two parts, first, the part that is retained, consumed and invested in the country and, secondly, the part that is exported. Corresponding to this division of the gross domestic product, we have the division of the national income into income derived from production for the home market and income from the sale of goods and services to foreign markets. Now national expenditure may, or may not, be equal to the sum of these receipts. It is now made partly on the goods and services produced and retained at home but partly on goods and services imported from abroad. Evidently, if imports exceed exports in value, national expenditure will exceed the value of gross domestic product. Converse is the case, if exports exceed imports. Or to put it differently, gross national income = national expenditure plus exports minus imports = consumption plus investment plus exports minus imports.

But a country can import more than it exports only if it borrows abroad and/or sells foreign assets. Conversely, when it exports more than it imports, it can use the balance only to make loans and/or increase foreign assets. In the former case, the country will be reducing its foreign assets or "disinvesting"; in the latter, it will be investing abroad. We can add the foreign investment to or subtract the foreign disinvestment from, domestic investment. We shall then have national income = national expenditure = consumption plus domestic investment plus foreign investment or minus foreign disinvestment = consumption plus investment (domestic and foreign.)

When a national of a country invests abroad, his income consists in part at least, of receipts from abroad. Similarly the incomes of the national of a country, speaking generally, may be obtained in part, from abroad and not wholly from domestic production. We have then two concepts and two definitions of national income. The total income produced within the boundaries of the nation as a geographic unit and the aggregate income of the nationals of a country irrespective of where that income originates, at home or abroad. The phrase 'domestic product', gross or net refers to national income in the first sense; while the phrase 'national income' is used to denote it in the second sense.

Real Gross Domestic Product

We have seen that the gross national product is computed in terms of value. In fact, there is no other way in which an aggregate of heterogeneous goods and services can be built up, one cannot add a pair of shoes to a yard of cloth to a bushel of paddy. But one can add up the value of these goods to give a measure of the total collection.

Now the value of the national product may go up or down from one year to another, because of change in the prices of goods and services. In such a situation if one wants to know if, and to what extent, the real gross domestic product, in the sense of a collection of real goods and services, has changed, one has to divide the change in the money value of the national product by the change in general prices. One way of making the comparison is to calculate the value of the national income, say, in 1961, on the assumption that the prices of various goods and services in that year are the same as they were in another year, say, 1957. (The latter year is described as the base year). We have then a measure of the national income in 1961 at 1957 market prices, as well as of the same income at current prices. A comparison of the national income in 1961 at 1957 prices with that in 1957 gives us an idea of the change in the magnitude of the real national product that took place between the two years, while a comparison of the value of the national income in 1961 in terms of 1957 prices and of current prices would be an index of the 'change' in the value of real national product caused by changes in the general prices.

Capital Formation, Gross Domestic Capital Formation

The meaning of the terms Gross and Domestic is obvious. The phrase Capital Formation is simply the formation or building up of capital, usually fixed capital through investment. Investment is the flow of resources which are congealed into fixed capital. If there is no net investment, there is no new capital formation; just the old stocks of machines, tools, etc., are being maintained. In so far as expansion of production depends on capital goods—it does heavily—the rate of capital formation in a country is an index of the rate of expansion of its productive capacity.

Capital output ratio

This term represents the value of the investment in fixed capital required to produce given value of output in, say, a year. For example, if Rs. 10,000 has to be invested in machines and plants to produce goods worth Rs. 5,000 a year, the capital/output ratio is Rs. 10,000 : Rs. 5,000 or 2 : 1 or simply 2. The capital/output ratio of an enterprise or industry is determined by technical factors; some processes require large investment in fixed capital relatively to output, others require small investment. The overall capital/output ratio in an economy is simply the average of these differing ratios. The ratio is not a yardstick of the productivity of different investments, but a measure of the requirement of different industries and therefore a helpful instrument for adjusting the total requirement for investment to the total supply of investment funds or resources.

Capital-intensive, labour-intensive

These terms are applied to projects, industries, etc., to indicate the relative importance of capital and/or labour in the process of production. Mining, for example requires much labour for a given output, while to produce electricity much capital and relatively small amount of labour are required. Mining is labour-intensive, production of electricity capital-intensive.